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JOURNAL

OF THE

INDIAN MEDICAL ASSOCIATION

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JOURNAL

OF THE

INDIAN MEDICAL ASSOCIATION

Vol. IV *Calcutta : August, 1935* No. 12

INVESTIGATIONS ON THE PREVENTION OF MALARIA IN RURAL AREAS

PROFULLA KAMAL ROY, M.B.

Comilla

The work which I am just trying to describe here is the result of investigation at Sri-Niketan, the Visva-Bharati Institute of Rural Reconstruction of Dr. Tagore at Surul, Birbhum. Situated in a locality where malaria is playing havoc, the Institute has ample opportunities for investigations of this nature.

Speaking generally, the object of these investigations had been to find out suitable measures for the prevention and cure of malaria in localities where advanced laboratory and medical aid has not been possible.

With this object in view, and also with the object of moral and material uplift of the people around, the Institute has been working since its inception with a band of noble workers in the midst of the poor villagers about them. First-aid and nursing to the sick and the injured, maternity and child-welfare, domestic and public hygiene, primary education and elementary rural economics—these were amongst the various subjects in which these workers sought to educate every member of a household under expert supervision. The Medical Officer in charge of the Health Section thus became responsible for the health activities of the Institute. He was also responsible for the anti-malarial campaign that used to be organised every year under the supervision of the Institute. It is these anti-malarial activities that I am trying to describe here as organised under my supervision during the years 1925—27. Compared with the other recognised methods, they will be found to be equally effective but much more economic.

1. Cinchonisation & Anti-Mosquito Works as measures for the Prevention of Malaria

Speaking broadly, there are three essentials concerned in the propagation of malaria; *viz.*,

(1) the mosquito or the transmitter;
(2) the infected subject or the carrier; and
(3) the healthy subject or the victim.

In our scheme for prevention, therefore, we had to provide for the treatment of—

(1) the mosquito and its haunts;
(2) the carrier; and
(3) the victim.

The details of this scheme may be conveniently considered under two heads; *viz.*,

(1) measures adopted before the advance of the so-called malarial season or the rains; and

(2) measures adopted actually with the rains.

1. Measures adopted before the rains:—

All measures adopted during the dry weather, were calculated to abolish the mosquito-haunts During this period, the general sanitation of the village concerned was sought to be improved by:—

(1) construction and repair of roads;

(2) construction and cleaning of drains and outfalls;

(3) cleaning of jungles; and

(4) filling up or cleaning of " dobas " ' ditches ' and tanks.

In consequence of these activities places which formed the shelters and breeding places of mosquitoes during the preceding rains, were now destroyed and abolished, and, so, the mosquitoes had no places to breed in or obtain shelter during the rains following.

Apart from these, activities like gardening, banking, etc., would, by increasing the material prosperity of the villagers, also tend to increase the individual powers of resistance against the disease.

Amongst the other activities during this period, may be mentioned " the regular propaganda by excellent lantern slides with talks on hygiene and sanitation."

It must be pointed out here that the works mentioned above, were all done by the villagers themselves acting on co-operative principles. They formed themselves into Health-Societies under the guidance of the Institute. Members of such Health-Societies would receive benefits from the Institute, medical and otherwise, which the non-members were not entitled to.

2. Measures adopted during the rains:—

With the advent of the rains, however, the main activity would be directed towards destroying the mosquito larvæ by oiling such places or collections of water as could not be drained or filled in during the dry weather. Oiling would also be done over the temporary collections of water formed after the break. of the monsoon to prevent fresh broods of mosquitoes being reproduced. Thus, by abolishing the breeding places in the dry weather and destroying the mosquito larvæ during the rains, the breeding of anopheles would be greatly reduced, effecting thereby, a proportionate reduction in the malarial sickness as well.

Other activities, at this period, would consist in:

(1) the treating of persons having or suspected of having malarial parasites in their blood; and

(2) treating healthy individuals in such a manner that even when bitten by infected mosquitoes, they would not develop malarial fever.

For both these purposes, we used to depend on systematic cinchonisation.

It should be mentioned here that our Institute was not sufficiently equipped for the recognition of the carriers by competent laboratory examinations. We had, therefore, to depend upon charts designed to meet the purpose (vide Appendix II (A) & (B). When these charts would indicate the presence of malaria in any individual we used to treat him directly with quinine or cinchona just as an acute case. When, however, they indicated otherwise, the individual would receive treatment appropriate for the occasion.

Generally, in an acute case of malaria, we used to administer 5 grs. of quinine or cinchona, thrice daily after food. When the acute symptoms thus subsided, 5 grs. everyday at bed time would be given for a few days more. After this, the case would be treated as an ordinary malaria-carrier with 5 grs. of quinine or cinchona twice a week for a period of 8 weeks; not till this course was finished, would it be regarded as free from malarial parasites in the blood.

As for the so-called healthy individuals of a malarial locality, we used to adopt the same procedure for their protection as for the carriers; *viz.* 5 grs. of quinine or cinchona, systematically given to every adult, twice a week, during the whole of the malarial season.

It has been advised that the carriers should receive " 10 grs. of quinine sulphate every night before retiring for a period of 8 weeks " to obtain the optimum results. Our experience, however, showed that 10 grs. a week might serve the purpose to satisfaction. Further, it appeared that cinchona, rather than quinine was the drug of choice as it seemed to cover a wider range of usefulness; a well-balanced combination of the two, however, seemed to benefit every case of malaria irrespective of the type.

These, briefly, were our activities with regard to the various anti-malarial measures we used to adopt throughout the year. Appendix I shows them at a glance. The net result of these activities had been a gradual reduction in the attacks of malaria even in localities where they had been most prevalent. (Vide Appendix III & IV). Further, it will be seen from Appendix III that better results had been achieved

in places where the remedies could be employed in a more regular and systematic way; irregular cinchonisation appeared to be worse than useless, perhaps because, it rendered the parasites more resistant than before.

So far, then, we have seen the value of methods, such as " cinchonisation and mosquito-destruction " in the prevention of malaria; let us now consider the value of—

II. Plasmoquine as a measure for the prevention of Malaria.

This drug has come to the forefront only in recent years as a substitute for quinine for the purpose. The comparatively short course of medication together with the easy method of its administration, has earned for it the place it enjoys to-day; nor are the results of its use unsatisfactory. There is no denying the fact to-day, that plasmoquine is an effective remedy for the destruction of gametocytes, the form in which the parasites of malaria enter the mosquito from the human blood. It is contended, for this reason, that by making every individual of a malarial locality use this drug, the mosquitoes of that locality can be prevented from being infected and spreading the disease with their bite. Plasmoquine would, thus, appear to have solved with ease a problem of utmost difficulty. Unfortunately, things are otherwise in actual practice. The continuous ingress and egress of people to and from any particular locality creates a condition of affairs in which it is no longer possible for a mosquito there to remain uninfected. The value of plasmoquine as a preventive medicine has, for this reason, fallen far short of the expectations entertained about it. Nevertheless, it cannot be denied that the administration of this remedy has lowered the percentage of malaria to a considerable extent wherever used.

This necessarily leads one to suppose that a wider application of the drug would, perhaps, conduce to better results. The prohibitive initial expenditure, however, stands in the way of its application on a wide scale for this purpose.

There is yet another reason why it may not be used with impunity on a vast scale. The disturbance, it causes of the circulation, makes it a drug for use with caution even by the practitioners of medicine, though it is said to have been rendered very much safer to-day than before. It is, therefore, a drug unfit for general use by a lay man. For the same reason, again, one should be certain about the nature of a case by proper examinations, clinical and otherwise, before one could decide on the use of the drug for that case,—a practice not usually needed for quinine or cinchona.

The application of plasmoquine as a mass measure for the prevention of malaria does not, therefore, appear to us to be as suitable as the time-honoured methods of cinchonisation and mosquito-destruction for the same purpose.

Effects of Rainfall and the level of subsoil water on Malaria:—

While we have been considering the respective values of the various anti-malarial measures, it will be interesting to notice the effects of various grades of rainfall on the propagation of the disease.

Appendix V (B), (C) & (D) shows the nature of rainfall day after day, during the 3 years 1924, '25, and '26; and Appendix V (A) presents a digest of the same, month after month. Appendix IV, on the other hand, gives a comparative study of the malarial attacks, month after month, during the years 1925 and '26, while, for the year 1924, it gives the figures for the months of October, November and December only.

A close observation of all these appendices, taken together, shows that while the malarial percentage after the onset of strong monsoons gradually diminishes, that after feeble monsoons or rains just sufficient to form small collections of water, generally shows an increase. One must remember in this connection, that the effects of a rainfall on malarial infection begin to be apparent only after a month or so after the onset of the rains. Also, it is not the total amount of rainfall in a month that counts; it is rather the nature of the rains—heavy or feeble—that has an important bearing on the propagation of the disease. We find, therefore, that in 1925, because the strong monsoons did not commence earlier than August, in spite of the total rainfall being highest in July, the percentage of malaria up to September was showing a gradual increase and that after September showed a gradual decline. In 1926 also, there were only small rains just sufficient for field operation (and therefore, for forming small collections of water) before July when the heavy monsoons for the year set in; and we find consequently that the malarial percentage up to August was higher than that after this month.

It is significant that in these two years the period of maximum illness differed, though cinchonisation commenced early in August on both the occasions; this is seemingly because of the difference in the arrival of the monsoons in the two years concerned.

We have tried to interpret the course of events detailed above as follows:—

1. Intermittent and moderate rains (=R) as well as those of feeble monsoonic nature (=R) form collections of water sufficient for oviposition; and as such, lead to an increase in malarial infection.

2. Strong monsoons, on the other hand, lead to the formation of vast sheets of water which wash away the anopheles larvæ and destroy the breeding places of the mosquitoes as well; consequently, there is a reduction in the attacks of malaria after such a monsoon.

3. But, after a strong monsoon, when the water begins to recede, and there is inefficient or obstructed drainage in a locality, small collections of water are formed which lead to a condition similar to (1) above, and thus favour the spread of malaria again.

The level of the subsoil water, in any locality, goes *pari passu* with its drainage and rainfall. Continued rains, large or small, for a long time, lead to a water-logged condition of a soil, especially when the drainage is bad and inefficient. As a consequence, the level of the subsoil water there, shows an ascent. Heavy rains for short periods, on the other hand, may not lead to such a condition, there being ample time for drainage and evaporation.

A high level of the subsoil water causes pools which would otherwise remain dry, and thus favours breeding of mosquitoes. A persistently low ground-water-level (15 or 20 ft.) is considered unfavourable to malaria.

III. Bonification as a means of prevention of Malaria:—

There is, as yet, another method we have got to consider while on the subject of malarial prevention. Briefly, this method consists in the work of "Bonification." We have seen how pits are formed whenever embankments are raised for any purposes; these pits, in time, may become potential sources for the spread of malaria by affording breeding places for the mosquitoes. The embankments, too, when they run across the natural slope of a land, may cause obstruction to the natural drainage of the place; "thus, when the natural irrigating forces are destroyed or impaired in any locality, certain results follow: *viz.*,

(1) the fertility of the land is injured or destroyed.

(2) the inhabitants are impoverished and therefore, less liable to afford measures of protection against mosquitoes.

(3) their vitality is lowered, rendering them more vulnerable to the attack of the malaria microbe.

(4) the mosquitoes, finding more breeding places and fewer destructive agencies, become more numerous."

Measures of bonification, therefore, not only aim "to destroy the anopheles mosquito in its haunts and increase the individual powers of resistance to the disease, but also to increase the material prosperity of the locality concerned and its inhabitants, and provide a source of revenue to recoup the State for the original outlay."

Bentley, in his book on "*Malaria and Agriculture in Bengal*" recognised, as early as 1925, the immense value of bonification as a means of reducing malaria in Bengal. He, in fact, regarded it as the only method when anti-malarial activities had to be "carried out on a sufficiently large scale to stamp out malaria from the districts where it is most prevalent."

The Department of Revenue and Irrigation of the Government of Bengal have also, in their Report for the year 1932—33, recognised this as a method for adoption for the control of malaria on a large scale.

There are, therefore, no two opinions regarding the value of systematic application of the measures of bonification for the prevention of malaria on a wide scale and as such, they should be adopted whenever possible.

But unfortunately, the vastness of the measures together with the involved financial and other considerations, stand in the way of their application even where really needed. The less costly but effective "anti-mosquito and cinchona" measures are then the only ones for adoption on such occasions.

It will thus be seen that of the various anti-malarial measures hitherto recognised, these—the "anti-mosquito and cinchona" measures—are the only ones capable of application with benefit by any individual irrespective of time or place. Measures like these have no necessity for costly equipments or a huge staff, but only require a handful of cinchona and a small band of willing workers, determined to introduce the principles of life in hitherto neglected societies with tact, sympathy and gentle persuasion.

APPE

Health Activities of

Serial No.	Name of Village	Total population	Total No. of families	No. of families forming Health Societies	Area of jungles cleared	Number of tanks, doba etc. cleaned & filled up.	Kerosinisation		Cinchonisation	
							Quantity spent	No. of dobas etc. Kerosinised	Amount spent	No. of heads served.
1	Bahadurpur	330	52	45	120 sq. ft.	2 tanks	6 srs.	40 dobas	— grs. of Cinchona	—
2	Mahidapur	800	160	80	240 sq. ft.	1 tank 3 dobas	5 srs.	36 dobas	— grs. of Cinchona	—
3	Lohagar	600	96	36	No jungle	4 tanks	7 srs.	46 dobas	1175 grs. of Cinchona	25
4	Ballavpur	87	23	23	10 Bighas	3 tanks	5 srs.	20 dobas	2177 grs. of Cinchona 290 grs. of Quinine 42½ grs. of Arsenic	79
5	Bhubandanga (Dompara)	350	65	20	1200 sq. ft.	4 dobas; 1 manure pit.	10 srs.	15 dobas	940 grs. of Cinchona	42
6	Dangapara	73	15	15	—	—	4 srs.	7 dobas	3195 grs. of Cinchona 80 grs. of Quinine	67
7	Benuri	250	40	28	—	2 tanks	7 srs.	21 dobas	— grs. of Cinchona	—
8	Bandgora	120	30	30	1 Bigha	1 tank	5 srs.	15 dobas	— grs. of Cinchona	—
9	Raipur	1249	—	20	—	—	—	—	— grs. of Cinchona	—

N. B.— (—) indica

APPENDIX I.

ities of Village Societies, 1926.

nisation		Other Activities	Schools				Malaria amongst Society-members	Income and Expenditure of Societies	Remarks
	No. of heads served.		Number	Nature	No. of pupils	Supplementary subjects taught			
	—	Roads newly made : 920 ft. Roads cleaned : 500 ft. Roads repaired : 50 ft. Lantern Lectures.	1	Day	46	Gardening; Brati Balak organisation (scouting)	—	Inc. Rs. 431-12-0 Exp. Rs. 416-11-0	
	—	Roads newly made : 300 ft. Roads repaired : 400 ft. Drain opened : 65 ft. Drain newly made : 850 ft. Lantern Lectures.	2	Day Night	56 37	Do.	—	Inc. Rs. 220- 0-0 Exp. Rs. 206-10-6	
	25	Roads repaired : 2734 ft. Drain opened : 1284 ft.	1	Night	15	Nil	6·8%	Inc. Rs. 206- 4-0 Exp. Rs. 164- 0-9	
of	79	Roads newly made : 400 yd. Drain newly made : 50 yd. Drain opened : 4000 ft. Lantern Lectures.	1	Night	10	Brati Balak organisation	47·1%	Inc. Rs. 123-14-0 Exp. Rs. 104-12-9	
	42	Roads newly made : 300 ft. Roads repaired : 600 ft. Drain newly made : 600 ft. Drain cleaned : 200 ft. Lantern Lectures.	1	Night	20	Gardening; Tape making; Brati Balak	4·7%	Inc. Rs. 136-14-0 Exp. Rs. 130- 6-0	
	67	Roads newly made : 300 yd.	—	—	—	—	73·9%	Inc. Rs. 20- 4-6 Exp. Rs. 11-10-0	Society newly formed and so statistics all not available.
	—	Roads repaired : 300 ft. Lantern Lectures.	—	—	—	—	—	Inc. Rs. 50- 2-0 Exp. Rs. 50- 2-0	Society newly formed.
	—	Lantern Lectures.	—	—	—	—	—	Inc. Rs. 29- 4-0 Exp. Rs. 22- 7-0	Society newly formed.
	—	Roads repaired : 175 ft. Drain opened : 700 ft. Lantern Lectures.	1	M. E. Day	—	Gardening; Weaving; Brati Balak	—	Inc. Rs. 32-14-0 Exp. Rs. 32-14-0	Society newly formed.

– (—) indicates want of records.

APPENDIX II (A)

For distribution to members.

"QUININE AND FEVER" CHART.

Village.....

For the Month of.....

Family No.....

Head of Family.....

Days for $\frac{\text{quinine}}{\text{cinchona}}$.....

Year.....

No.	Name of Member	Date—showing administration of Cinchona or Quinine and attack of Fever also. 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31	Amount of Cinchona or Quinine taken	In case of fever, please note— Regular, Irregular or No Quinine taker	Date and time of fever	Any remission and when	Any recurrence and when	Any ague or sweat	Any other complaint	Bowels, Urine, etc.	Liver, Spleen, etc.	Any remission with Q. ? Dose ?	Any relapse when Q. stopped	Any relapse even when Q. contd.	REMARKS

APPENDIX II (B)

For use by Medical Officer.

"QUININE AND MALARIA" CHART

Village.....

For the months of.....

Year.....

No. of family	Total No. of members.	Months	No. of Malaria sufferers	No. of Quinine or Cinchona takers	No. of regular takers	No. of irregular takers	No. of no takers	No. of sufferers among regular takers	No. of sufferers among irregular takers	No. of sufferers among no takers	Amount of Quinine or Cinchona spent	REMARKS.

APPENDIX III

MALARIA STATISTICS **for the months of August, September and October.** **Year 1926.**

Name of Village	Total no. of population	Total no. of families	No. of families joining society	Cinchonisation					Prevalence of Malaria				P. C. of Malaria in			Remarks.
				Amount spent (in grs.)	No. of heads served	No. of regular takers	No. of irregular takers	No. of no takers	No. of sufferers	No. of sufferers among regular takers	No. of sufferers among irregular takers	No. of sufferers among no takers	Regular takers	Irregular takers	No takers	
Bhubandanga	350	65	20	Cinc. 940 grs.	42	31	11	0	2	0	2	...	0	18·1	...	Statistics only of September.
Dangapara	73	15	15	Cinc. 3195 Q. 80	67	0	67	6	54	0	48	6	0	71·6	100	Statistics of August, Sept., Oct.
Ballavpur	87	23	23	Cinc. 2177 Q.- 290 As. 42½	79	0	79	8	41	0	37	4	0	46·8	50	Statistics of August, Sept., Oct.
Lohagar	600	96	36	Cinc. 1175	25	0	25	91	8	0	3	5	0	12·0	5·4	Statistics of August & September.

APPENDIX IV

MALARIA STATISTICS from the Sri-Niketan Dispensary (Surul) for the year 1925

Month	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total	Remarks.
No. of patients	267	258	445	331	115	152	138	205	173	477	348	288	3197	**For the year, 1924:—** Figures for **Oct., Nov.** and **Dec.** only are available. They are:
No. of patients suffering from Malaria	109	112	190	133	34	35	38	60	80	319	240	181	1531	(1) No. of cases suffering from Malaria 696 (2) No. of society-members suffering from Malaria ... 190 (3) P. C. of society-members suffering from Malaria 27·3
No. of society-members suffering from Malaria	38	45	114	77	14	6	14	24	39	122	56	28	577	**Corresponding figures for the year 1925 are:**
P. C. of society members suffering from Malaria	34·9	40·2	60·0	57·9	41·2	17·1	36·8	40·0	48·7	38·2	23·3	15·5	37·7	(1) No. of cases suffering from Malaria 740 (2) No. of society-members suffering from Malaria ... 206 (3) P. C. of society-members suffering from Malaria 27·8

MALARIA STATISTICS from the Sri-Niketan Dispensary (Surul) for the year 1926

No of patients	346	270	269	408	446	220	414	493	577	494	729	295	4613	**And for the year 1926 they are:—**
No of patients suffering from Malaria	156	111	106	174	138	31	47	125	202	199	310	121	1720	(1) No. of cases suffering from Malaria 630
No. of society-members suffering from Malaria	24	15	20	43	38	6	7	26	26	37	52	14	308	(2) No. of society-members suffering from Malaria ... 103
P. C. of society-members suffering from Malaria	15·4	13·5	18·9	24·7	27·5	19·4	14·9	20·8	12·9	18·6	16·8	11·6	17·9	(3) P. C. of society-members suffering from Malaria 16·3
Month	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total	

APPENDIX V (A)

Comparative figures of Rainfall: For the years, 1924, 1925 and 1926.

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total	Remarks.
1924	nil	nil	nil	1·45	1·21	5·89	9·51	5·90	10·51	nil	nil	nil	34·47	
1925	nil	0·76	2·00	2·71	2·81	4·31	10·77	7·94	6·40	4·90	2·64	nil	45·24	
1926	1·08	nil	3·07	0·75	1·56	5·72	14·50	13·34	7·12	2·26	nil	0·16	49·56	

APPENDIX V (B)

Record of Daily Rainfall: For the year, 1924.

Date	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Remarks
1							R*	R*	R				
2													R indicates—
3								R*					
4								R*	R				Rainfall unfit for cultivation.
5							R†		R‡				
6							R†		R‡				R* indicates—
7							R†						
8							R†	R*					Heavy rain for short periods sufficient for field operation.
9													
10					R	R			R†				
11							R†	R*	R†				R† indicates—
12								R‡	R†				
13							R*		R†				Feeble monsoonic rains.
14									R‡				
15					R				R‡				R‡ indicates—
16									R‡				
17						R*			R†				Strong monsoonic rains.
18				R*					R†				
19				R				R*	R†				
20				R		R‡		R*	R*				
21						R‡							
22						R†			R				
23							R						
24							R†		R				
25							R‡						
26							R‡						
27							R						
28													
29				R									
30													
31							R*						

APPENDIX V (C)

Record of Daily Rainfall: **For the year, 1925.**

Date	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Remarks
1								R*	R†				
2									R†				R indicates—
3					R*		R*	R†					
4						R*		R‡					Rainfall unfit for cultivation.
5								R†		R*			
6									R†				R* indicates—
7								R					
8					R*								Heavy rain for short periods sufficient for field operation.
9								R		R*			
10			R*						R		R*		
11							R*						R† indicates—
12				R*				R†					
13			R*			R*		R†					Feeble monsoonic rains.
14						R†		R†	R	R			
15						R†			R†				R‡ indicates—
16							R		R†	R			
17				R			R	R					Strong monsoonic rains.
18					R								
19					R	R	R†			R*			
20			R*			R	R‡	R					
21							R‡						
22				R		R*	R†		R*				
23				R*									
24				R									
25													
26							R						
27				R	R	R	R	R*					
28		R*		R		R							
29							R	R‡					
30						R		R‡					
31							R	R†					

APPENDIX V (D)

Record of Daily Rainfall: **For the year, 1926.**

Date	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Remarks
1						R*			R†				
2									R‡				R indicates—
3			R*						R†				
4	R*							R	R‡				Rainfall unfit for cultivation.
5			R*			R	R†	R*		R†			———
6			R†		R*		R‡	R‡		R†			R* indicates—
7			R†			R	R†	R†	R	R			
8	R		R†				R†	R	R‡	R*			Heavy rain for short periods sufficient for field operation.
9	R*				R		R†	R	R†				
10	R						R†	R†					———
11			R*				R†	R‡	R				R† indicates—
12							R†	R‡					
13							R†	R‡	R				Feeble monsoonic rains.
14			R		R*		R	R‡					
15				R*				R‡					R‡ indicates—
16			R*				R†	R‡	R†				
17						R	R‡	R†	R†			R	Strong monsoonic rains.
18						R	R†	R†					———
19				R*		R*	R†	R*	R*				
20							R†	R					
21			R*		R*		R‡	R		R*			
22							R†						
23							R						
24							R*						
25							R	R*					
26							R*	R	R				
27					R*		R	R					
28						R*	R	R					
29							R†	R†					
30	R*						R‡	R‡					
31	R						R	R‡					

THE CENTRALISATION OF WELFARE WORK IN INDIA

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London

In a previous article in this journal, the writer has suggested that a progressive policy and productive programme of welfare activities in India cannot be matured in the absence of centralised and coordinated activity. Any chauvinistic movement for the decentralisation of the Public Health Service must accordingly be viewed with the gravest concern, both from the domestic and international viewpoints. It follows that the existing skeleton of a central organisation must be re-organised and developed; to abolish it would mean, as General H. GRAHAM (1932) says, that India would " pass at once administratively into the category of an uncivilised state.....a central African state." He rightly adds that " the impression produced throughout the civilised world would be so painful, if such a position were created, that it is scarcely to be thought of. Moreover, the component states of no federated country in the world have ever attempted to arrogate to themselves the health functions of the central government." Certainly the need for a Central Health Bureau " in a country of the size and nature of India cannot lightly be disregarded either from the point of view of routine administrative procedure, of economy, or of the development of public health on modern lines."

General Graham's views are supported by responsible opinion wherever it exists, but responsible opinion is not infrequently absent in those who influence the public outlook. The recent Agricultural (1928) and Labour (1931) Commissions emphasized the need for centralisation, but unfortunately they seem to have concerned themselves more with recommending ' central institutes ' of one kind or another than with any radical scheme for the re-organisation and expansion of the public health service. And central institutes are not the solution to India's welfare problems; a new room here and an additional wing there may help, but certainly will not accommodate, the intensive activities that are necessary. A Central Bureau of Health, as mentioned but not elaborated by the Statutory Commission (1930), with a Minister and a Medical Secretary, is the only foundation upon which vital developments can be based.

In a somewhat adventurous spirit, for the writer is conscious of his limitations, an attempt is made, therefore, to outline the relations and branches of such a Bureau in the accompanying diagram. It is not a product of arm-chair idealism, for it is realised that the radicalism of a biologist is not necessarily practicable for a government, particularly when complicated by the many factors that operate in India. Thus, the outline admits such departments as the Indian Medical Service and the Women's Medical Service, whose members would, in a more ideal scheme (as exists in the United States), be accommodated in the Public Health Service or the Army Medical Force. It has been felt that it is unnecessary to emphasize what progress will make inevitable.

The scheme is, therefore, presented as a practical proposition, utilising the present organisation as a basis. It may be said that it will involve expenditure beyond the resources of the country, but it must be realised that any material advance on these resources is intimately associated with the condition of its people. The duties of a modern State are not fulfilled by allotting 0.03 of its expenditure to the health of its citizens. It is, therefore, obvious that by economy in some directions more funds can be found for the nation-building deparments, which should be supplemented by provincial contributions. It is also obvious that wise expenditure increases the productivity of a budget, a fact that does not appear to have impressed itself upon many Indian scientific departments, whose spatial and architectural exuberance, and lavish remuneration of officers of very ordinary ability, have occasioned extensive, but practically unheeded, criticism.

Assuming that a Central Bureau is a practical, economic proposition, sanctioned and supported by an All-India Health Act, we may proceed to consider its organisation and activities. A Secretary of international experience, recruited by wide advertising

without national or Service prejudices, is the first essential. He would have under him four co-ordinated departments, the Directors and Deputy-Directors of which may be recruited from the Services, or from the independent profession in India, provided they possess the requisite qualities for such appointments, which are not necessarily associated with academic or professional distinction. The appointment of women to administrative posts should be encouraged, particularly in the departments of health research and education.

Of the Department of Health Intelligence, Administration and International Relations (the words ' Health Intelligence ' may be omitted), and of Sanitary Engineering, there is little to say. Their duties are obvious. The former would assimilate the office of the present Public Health Commissioner with the Government of India, and should have a large degree of freedom in its international relations and administrative duties. The latter would be a small department, existing mainly for coordinating and advising provincial and local activities in the same field.

The Department of Health Education and that of Research should be very closely connected, and may, perhaps, be administered by one Director. The duties of the former would be largely concerned with the training of health workers, and the dissemination of the results of research. The head of this department should, therefore have a ' feeling ' for intelligent publicity, and his chief assistants must combine some scientific capacity with practical knowledge of modern publicity methods, both in its technical and theoretical aspects. This implies careful selection and proper training after appointment, a study tour being regarded as an essential preliminary to all responsible appointments. And those nationalists who feel that India can provide all the necessary training and cultural contacts should remember that even such patriots as Swami Vivekananda repeatedly emphasized the value of foreign travel and study.

With the manifold activities of this department we need not concern ourselves in detail. It would be responsible for an Annual Health Conference (preceded by a Research Conference), for a Central Health Museum and advice to local museums, for the supply of basic publicity matter (including cinema films) and health intelligence to provincial departments and the public press, for co-operation with unofficial agencies (such as the Junior Red Cross), and for at least three health magazines run on commercial lines. The first of these would be a quarterly, intended primarily for those directly concerned with the promotion of public health; the second would be a monthly, run along popular lines, for laymen; the third would be a simple, attractive monthly distributed to children through the schools and actively supported by the education department. Properly run, these journals involve no more than whole-time competent editor with a small staff, and would more than pay for themselves. Vernacular editions of the laymen's journal, in simpler form, and of the children's magazine, would be distributed through the provincial health departments, who should also suggest items for inclusion. Particular attention would be paid to the problems of women, with the advice of the Maternal and Child Welfare section of the Central Health Institute. Attractive health books and pamphlets, printed with discrimination and not according to the third-rate standards that now obtain, should also be a feature of the department's activities.

The Department of Research would control and coordinate all health research in the country, and administer all funds available for this purpose. Such organisations as the Indian Research Fund Association would be directed by this department. It would maintain a Central Health Institute, which would not only deal with the various branches of preventive medicine, pharmacology and therapeutics, but also house sections concerned with bio-chemistry and nutrition, maternal and child welfare (including sex problems and contraception), psychology, physical anthropology and physiology, and genetics. The corporate activities of these sections would result in related work that may be called eugenic research.

The chief function of this Institute would be basic research. Thus, while the entomologist may include the morphology and ecology of mosquitoes in his programme, such data as distribution and local incidence would be supplied mainly by provincial health departments and merely be correlated by him. He would not have time for excursions into protozoology, nor would provincial entomologists be permitted, as is done to-day, to indulge in taxonomic arguments or dissertations on laval chætotaxy that make them feel pleasurably learned, without promoting the eradication of malaria in their provinces. Military discipline is not suggested, but it should be

realised that scientific progress is accelerated by an economic division of labour and team work. Such a regime does not exclude the provision of study facilities for more academic research, nor does it prevent workers from following personal interests in their leisure time, or from indicating problems to others.

Suggestive research would also be a feature of the Department's activities, in co-operation with the Department of Education. The demonstration rural health unit inaugurated at Hlegu, Insein District, by the Burma Government in collaboration with the International Health Division of the Rockefeller Foundation, provides an example of this type of work. Its aim is to demonstrate what can be done "by applying to a typical rural area modern methods of public health with the aid of staff and money." The rural health experiment in Ting Hsien, China, described by Yao,[1] furnishes another example of similar work. A model birth-control clinic, combining research, education and service in its activities, may be included in work of the suggestive type, for population control is certainly a serious problem of public welfare in India.

Team work involves the preparation by the Director of Research and the Central Health Institute of All-India programmes of health research, which would be published in the technical health quarterly, and be circulated to provincial governments and research centres for criticism and suggestions, before adoption. There must be close co-operation (which depends as much on the 'personal element' as on adequate organisation) between scientific departments and universities with whom ideas would be interchanged, since it is obvious that many problems are best studied by university professors and their post-graduate students, and such departments as the Zoological Survey of India (which includes anthropological research). Thus, the taxonomic bases of certain aspects of health research would be the business of the Zoological Survey of India, while their ecological and practical problems would be distributed over the Central Institute, research centres and local departments. It should be added in passing that the Zoological Survey of India* must be regarded as one of the most important scientific departments in India, though a short-sighted policy of retrenchment has brought it to a point of extinction that has only been averted by the capacity and enthusiasm of its six officers.

Such an approach to health research involves the re-organisation of many official research centres, and a reduction in their working expenses, which would benefit the development of the Central Health Institute. It also involves careful scrutiny of the existing aided societies, and close co-operation with those that survive this Survey. A Eugenic Society of India is an urgent desideratum, since wise government must be supported by practical, public appreciation. This Society would work in harmony with the Central Bureau of Health and its Institute, and would encourage studies, such as the investigation of sex-problems, that are outside the immediate province of the official organisation.

It would publish a journal which would be occupied more with the improvement of future generations, than with those welfare activities of immediate import on which the refinements of eugenic activity are necessarily based.

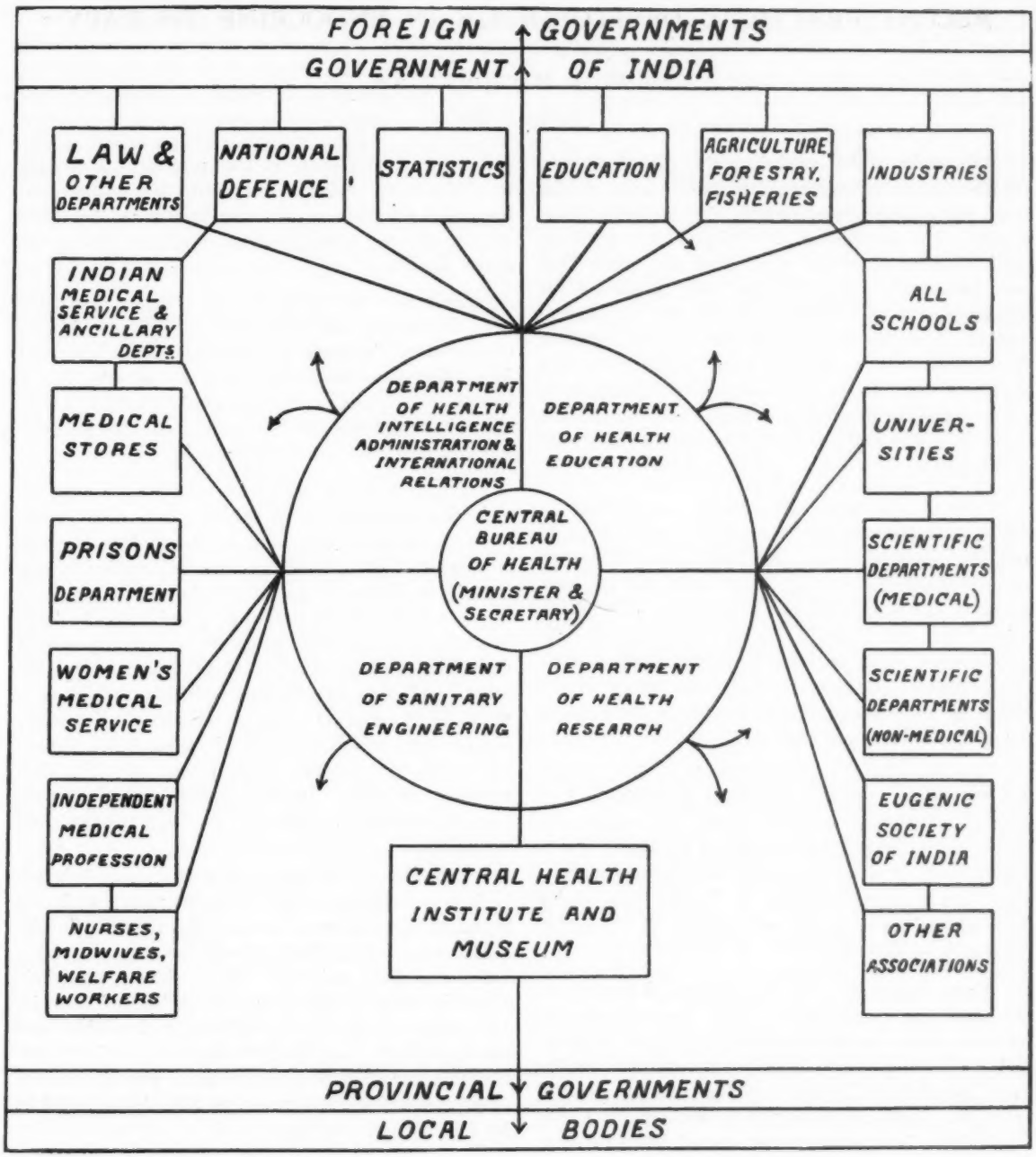
The Central Health Institute would also publish a *Journal* and *Memoirs*, which would leave the fields of medicine and surgery to the *Indian Journal of Medical Research*. Some pruning of the existing scientific journals in India would be necessary, while the publication of every popular health magazine should require the approval of the Bureau of Health. This would not stifle the opportunity for public criticism through the newspapers and reviews, though they remain, almost without exception, to be educated to a proper sense of civic responsibility.

To deal effectively with the location, activities and relations of the suggested organisation, and the means by which it may be secured, would require consideration which is outside the scope of this article, though within the compass of individual effort. It may, however, be emphasized that the re-organisation and amalgamation of the All-India Institute of Hygiene and Public Health (Rockefeller Institute), the School of Tropical Medicine and Hygiene, the Central Research Institute at Kasauli, and such bodies as the Maternal and Child Welfare Bureau at Delhi, would provide an advanced embryo from which the Central Health Institute would develop. The sections into which the Rockefeller Institute has been divided at present indicate an overlapping of functions that will add to the volume of research in

*G. Swell, R.B.S. Nature, April, 1932, 530-532.

the country, without really coordinating it. Nor does it appear that, under present conditions, it can make any outstanding contribution to bridging over "the gulf between the results achieved by pure research and their practical application to the community," much less to securing the centralisation on which the progress of Indian welfare depends. Its sections seem to be based on conventional teaching, rather than research needs, and technical education in public health should be provided for by an organisation that is separate from the research institute, though related to it and using its staff, if necessary.

Further comments are unnecessary. With any comprehensive visualisation of the scheme outlined, with any appreciation of the real scope of medical activity, the needful approach is evident. Medical endeavour in India, like every other activity in fields that are normally productive, has been too susceptible to vested interests, illiberal influences and sentimental falsities, to the destruction of which the preliminaries of radical progress must be directed.


FOREIGN GOVERNMENTS
GOVERNMENT OF INDIA
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NATIONAL DEFENCE
STATISTICS
EDUCATION
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INDIAN MEDICAL SERVICE & ANCILLARY DEPTS
ALL SCHOOLS
MEDICAL STORES
UNIVERSITIES
PRISONS DEPARTMENT
SCIENTIFIC DEPARTMENTS (MEDICAL)
WOMEN'S MEDICAL SERVICE
SCIENTIFIC DEPARTMENTS (NON-MEDICAL)
INDEPENDENT MEDICAL PROFESSION
EUGENIC SOCIETY OF INDIA
NURSES, MIDWIVES, WELFARE WORKERS
OTHER ASSOCIATIONS
DEPARTMENT OF HEALTH INTELLIGENCE ADMINISTRATION & INTERNATIONAL RELATIONS
DEPARTMENT OF HEALTH EDUCATION
CENTRAL BUREAU OF HEALTH (MINISTER & SECRETARY)
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RECENT PRACTICAL DEVELOPMENTS IN ENDOCRINE THERAPY

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The study of the endocrines through the years has disclosed to an astonished profession some of the most remarkable developments in clinical therapeutics. The attainments with thyroid therapy have not been dimmed in the more than fifty years that have passed since SIR WILLIAM GULL published his original papers on myxœdema. Present knowledge regarding thyroid therapy may not be any greater than it was, say, ten years ago, but the improvement of the therapeutic material has made it possible to use thyroid with much more latitude and convenience to the sensitive patient, as will be seen a little later in this paper.

Perhaps the most stimulating experiences in this field during the last few years have had to do with the isolation of definite chemical fractions from various glandular sources. Not only do we have products like insulin from the pancreas, and hæmopoietin from the liver, but as many as eight definite and different principles have been isolated from some of the glands. In fact, the polycrine nature of the glands of internal secretion is one of the most amazing of their developments.

For example, the adrenal glands produce a very definitely potent product known as epinephrine but, despite its potency, it is not nearly so fundamental in its action as the adrenal cortex hormone, for it cannot be used in a substitutive way in hypoadrenia. Until it was found possible to remove epinephrine from adrenal extracts, the real efficacy of the cortex fraction was obscured.

From the ovaries, we have separated two entirely dissimilar substances: the œstrus-producing hormone which is the essential female sex hormone and the luteal hormone, which is an antœstrin or the exact physiologic opposite of the ovarian stromal principle. Quite recently (1935), workers in Cleveland, Ohio, have separated a second hormone from the male sex glands which they call " inhibin." W. E. LOWER claims that this may be used as a means of offsetting the hormone inbalance that causes compensatory enlargement of the prostate. According to this author, inhibin is essentially the antithesis of the active principle of the interstitial cells of Leydig which for some years has been available under the name, Lydin.

Again, the calcium-regulating principle obtainable from the parathyroid glands is not its only endocrine contribution. Workers in the Westminster Hospital in London have separated from the parathyroids a trophic principle with a quite marked action which they hope may lead to the control of the aberrant cell growth which is the outstanding feature of cancer.

The liver is the source of at least two potent endocrine principles. Anabolin, the detoxicating hormone of the liver, has been in use for ten years as a means of encouraging the destruction in the liver by anabolism of the protein breakdown products or amino-acids of the nature of guanidine. Anabolin is used chiefly in the treatment of the toxæmias underlying functional high blood-pressure. On the other hand, the hæmopoietic principle, which is a water-soluble fraction as compared with the detoxicating hormone which is soluble in alcohol, has turned out to be one of the most potent blood-building remedies available. It has completely revolutionized our conceptions of anæmia, both pernicious and secondary.

Even the thyroid product is a dual one. Originally it was supposed that thyroxin represented the essential therapeutic virtues of the thyroid, but E. C. KENDALL, of the Mayo Foundation, found another iodine-containing principle which differs materially from the potent thyroxin which he isolated in 1914. Unfortunately, thyroxin is relatively insoluble and correspondingly unsuited for clinical use, hence the hopes aroused by its discovery have waned considerably, and total-thyroid products have been found to be far more satisfactory.

The posterior pituitary product, originated in Liverpool by W. BLAIR BELL as far back as 1909, has now been split into two fractions, the one an oxytocic

and the other a vasopressor principle. The anterior lobe extract gives us at least five active principles: an œstrin comparable with the œstrin obtainable from the ovaries; an antœstrin or luteinizing principle very similar in activity to the corpus luteum hormone; a thyrotropic hormone, which connects very closely the functions of the pituitary and the thyroid; a galactagogue hormone, or prolactin; and the so-called adrenotropic hormone.

The perfection of these various active principles has aroused a tremendous amount of activity and enthusiasm on the part of the research workers, and the fact that a number of these substances have been isolated in almost perfect chemical form and also that some of them actually have been synthesized has led to the recommendation that these pure products be used in place of our former cruder extracts. Unfortunately, this has not turned out to be so satisfactory a procedure as was anticipated. J. T. Collip, of McGill University, recently announced the discovery of a whole series of reaction substances which he terms " anti-hormones " and which are believed to result from defence reactions on the part of the body cells against the administration of these potent hormones in massive doses. Collip brings evidence to confirm his belief that, when certain of these concentrated hormone fractions are administered, the body immediately attempts to neutralise the abnormal amount of stimulating foreign material, and in the course of time each hormone thus administered causes a corresponding neutralising anti-hormone to be produced. This discovery is quite in harmony with our knowledge of cellular chemistry which has been developed in the study of allergy and immunology, especially the essentials of non-specific protein therapy. It also explains why the prolonged use of large parenteral doses of endocrine active principles is not always so satisfactory as it seems to be at the beginning of such treatment.

This development regarding the anti-hormones has caused a halt by some of the more aggressive students, and many a clinician is beginning to find out that there is more good in the older ideas than was supposed. This seems to be quite an important recent development, and the writer suggests that where there is a definite endocrine insufficiency and it is possible to arouse the patient's own endocrines to produce more of their natural products, these " home-made " hormones will be far more acceptable to the body than the chemical substitutes that are introduced from without.

This does not mean that the discovery of œstrin or insulin or parathormone has not been an advantage, for this is not the case, but it does emphasise the fact that there are latent limitations even to the best of therapeutic measures.

The thoughtful physician, encountering clinical experiences that Collip's anti-hormone theory seems to explain, naturally wonders how to proceed; and, recalling some of the earlier experiences, finds himself gradually going back to the fundamental principles which the brilliance of these new attainments may have dimmed somewhat. One of the most important single principles underlying successful endocrine therapy is what has been called " the principle of homostimulation." It is based upon a suggestion originally made, perhaps thirty years ago, by the French physiologist L. Hallion, which has since been formulated into a law that bears his name. This postulate, as re-stated in *Presse médicale* (1912, xx, p. 433), may be translated as follows:

" Extracts of an organ exert on the same organ an exciting influence which lasts for a longer or shorter time. When the organ is insufficient, it is conceivable that this influence augments its action, and, when it is injured, that it favours its restoration."

Any physician who has had an extensive experience in endocrinology knows that the administration of endocrine products is always valuable in proportion to the capacity of the patient to respond to such treatment. Substitutive organo-therapy, therefore, is not so ultimately and fundamentally effective as homostimulative organo-therapy even though the substitutive measures may be spectacular in their immediate effects, as is the case with the use of insulin in diabetes.

Experience with the organotherapy of the menopause gives us one of the best illustrations of this principle of homostimulation. The neuro-circulatory upset of this time of life is due to variations in the balance between the endocrines of the sex-regulating glands. The waning production of the ovarian hormone causes repercussions not only in other endocrine organs, particularly the pituitary but also the thyroid and the adrenal cortex. Consequently, pluriglandular therapy, such as is embodied in Menocrin, is found to be a much more satisfactory measure than the use of any single active principle, no matter how potent

it may be. Menocrin is a means of evening up the balance between the menstrual-regulating endocrines. It is much less effective where the menopause is produced artificially, as by surgery or radium. The reason for this undoubtedly is that in the normal menopause the ovarian ingredient in the Menocrin has an opportunity to influence directly the ovarian hormone production and thereby mitigate the severity of the menopausal loss of this agent; but, where the ovaries are destroyed or removed, obviously there is nothing to stimulate.

Another illustration of the comparative value of homostimulative organotherapy as compared with the purely substitutive procedure is the use of Endothyrin in varying degrees of hypothyroidism. In myxœdema, the treatment will have to be continued indefinitely and in fairly large doses, for the thyroid cells are either absent or atrophic and cannot respond to the administered thyroid principles. On the other hand, in functional thyroid insufficiencies both the amount of the dosage and the length of time it has to be continued are decidedly less because the patient's inactive thyroid has been encouraged once more to produce a more nearly proper amount of its own natural hormones.

Another important and fundamental development in endocrine therapy deals with the perfection of the organo-therapeutic products that are available. This perfection, as has been hinted in this article, seems to have been too good. From the standpoint of chemistry, thyroxin is a perfect attainment, but it does not represent the entire thyroid endocrine production. For this reason, and others already mentioned, it is now virtually discarded. Instead of isolating the actual chemical principles, we have found it advisable to remove as much as possible of the inert cellular debris from the original raw glandular tissue, and at each step demonstrate that the discarded material is indeed inert (and, in the instance of the thyroid gland, entirely free from iodine).

As a result of this work, Endothyrin is an advance in thyroid organotherapy. It is a total-thyroid product, each pound of which represents 15 pounds of fresh material as compared with the pharmacopœial figure of 1:5. Endothyrin contains 0.6 per cent. of organic iodine, or twice the British pharmacopœial figure. More important still, it is much less likely to cause intolerance, due undoubtedly to the fact that the bulk of useless protein cellular material is removed, which when catabolised can be a source of irritating amino-acid principles. Endothyrin has been proved to be much less toxic than a number of European and American products. When small animals are fed with various thyroid products in increasing amounts until the dosage proves fatal, the Endothyrin-fed animals live longer than any of the others.

Perhaps the most important cause of limitations in organotherapy is neither the nature of the product nor the skill of the physician, but the subtle interference of latent underlying causes. Repeatedly a chronic endocrine defect is treated with what is believed to be the indicated therapy in proper dosage, and after a time the initial improvement lessens and finally the benefit is practically nil. There are two outstanding causes for this: The first and by far the most important has to do with unheeded foci of infection, and the second to defects in hepatic detoxication that permit seriously toxic protein breakdown products to remain in the body and irritate the already over-burdened endocrines.

The former involves a very much more careful study of the patient, especially from the standpoint of foci of infection. The development in England of the antigenic product, Edwenil, has made it possible for me to work out a diagnostic method for the discovery of occult infections in connection with the study of patients with endocrine defects. The administration of Edwenil (sometimes only one or two doses) will re-arouse the local defences in the area of infection; and, when this area is hidden and unnoticed, this renewed activity, which usually causes an increase in the amount of exudate, makes the process much more obvious.

I have had some rather remarkable experiences with this procedure. For example, it is not unusual for a patient receiving Edwenil for diagnostic purposes to develop pain in a sinus, due to the re-activation of an old sinusitis that had been forgotten. Not infrequently toothache may follow such treatment, and the presence of an unnoticed apical abscess may be confirmed by radiography. A peculiarly interesting clinical case is worthy of mention: A man with a chronic neurasthenic picture had a history of a prostatic infection years before. He also had had mumps seventeen years previously. Two doses of Edwenil, an initial one of 4 c.c. and a second of 2 c.c., caused the expulsion of a calculus that had been lodged in the parotid duct, from which a purulent

discharge was seen to be oozing. Shortly thereafter this patient's prostate became more tender, and careful manipulation disclosed the remains of an old infection. Both of these conditions were treated and controlled, and, incidentally, the psychic effect of the discovery of these hidden developments disposed of the neurotic feature of the case almost immediately. Without doubt, the indicated organotherapy (with the adrenal-supportive formula, Adreno-Spermin) would have been ineffective had these infections remained hidden.

Much more might be said regarding this comparatively new diagnostic measure, but this is not the place for it. Suffice it to say that Edwenil is a very convenient means of drawing attention to latent foci of infection which undoubtedly are capable of causing serious interference to the function of the endocrine glands as well as to treatment calculated to improve these functions.

In conclusion, the physician who seeks to study his patients from the endocrine point of view, and to treat them by means of the indicated organotherapy, must bear in mind that success will come only when three important factors are combined:

1. The diagnosis must be right—*and complete.*
2. The remedies must be both potent *and natural.*
3. The endocrine-depleting causes must be removed, so as to give these glands every opportunity to respond to the indicated hormone replacement or encouragement.

THE NEED FOR A NATIONAL ANTI-CANCER CAMPAIGN IN INDIA AND THE ROLE OF THE RADIOLOGIST THEREIN

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On going over the published proceedings of the Fourth International Congress of Radiology held at Zurich, Switzerland, in July last, one is struck by the painful fact that among those who described the anti-cancer campaigns in several countries India was nowhere on the scene. About twenty-seven countries, through their accredited representatives, narrated the steps they had taken and were taking in order to control the ravages of the common foe, cancer. Among these countries were the U.S.A., Great Britain, Irish Free State, Sweden, Norway, Denmark, France, Germany, Czechoslovakia, Yugoslavia, Austria, Hungary, Holland, Belgium, Spain, Portugal, Italy, Greece, Switzerland, Poland, Soviet Russia, Australia, New Zealand, Egypt, Persia, Tartar Republic, and Japan. In this galaxy of nations, India is conspicuous by its absence, though there were a handful of delegates from this country. It may be that there is no anti-cancer campaign worth the name in this country, or it may be that the delegates fought shy to expose their own deficiencies before others. Any way, the impression is bound to prevail that India is not pulling its weight in the fight against cancer which all other countries are waging.

The reasons for this deplorable state of affairs are not far to seek. The helm of medical and public health administration is in the hands of persons who apparently have no interest in the welfare of the general population of this country and remain in India for short periods. The State has not particularly interested itself in the cancer problem, probably because there are apparently more important matters claiming primary attention. The people in general should bear part of the blame, and they bear ordinary bodily discomfort with remarkable fortitude under the notion that it is a retribution for their past sins—*Karma*! The organisation that goes by the name British Empire Cancer Campaign Society does not think it worth while to launch a cancer campaign in India. Private organisations are usually unable to tackle the huge problem of cancer, unlike other countries, and it would be unreasonable to expect them to do so, when it is remembered that India is a very poor country. The cancer patient is considered to be a foul individual, shunned by others in his house and not too well looked after in hospitals. Forsaken by God and man, the plight of the individual afflicted with cancer is made more miserable, and opium often puts the finishing touch on a life of agony patiently borne. Human nature has not steeled itself to such an extent as to be unmoved by the heavy toll of life that cancer has levied all the world over, and it is but right that the scientific minds have been set thinking in order to control the onslaughts of this deadful disease.

What other Countries are doing

When one recapitulates on what other countries are doing to combat cancer, one is astounded by the complete lack of similar efforts in this country. It will not be superfluous to narrate briefly the measures adopted in some Western countries in order to bring home the stupendous task which confronts those engaged in a cancer campaign.

Sweden has the most efficient machinery for controlling cancer. It was in 1910 that the Swedish Anti-Cancer Society was formed, which busied itself with cancer research and in the collection of cancer statistics. In the same year the *Radiumhemmet*, or the Radium Home, was set up as a small private clinic for the radiotherapy of cancer. About the same time the Stockholm Anti-Cancer Society was formed, which a year later took over the running of the Radiumhemmet and developed the radio-therapeutic activities. The Radiumhemmet has over five grammes of radium element, the most modern röntgen ray apparatus, and provision for over 70 beds. The Swedish State, the local bodies, the Stockholm

Anti-Cancer Society and others have contributed very liberally to the fundus of the Radiumhemmet. In 1928, a national collection was made in commemoration of King Gustav V's 70th birthday, amounting to five million Swedish crowns, and this amount was presented by the King to the country for furthering the anti-cancer campaign by the establishment of three central radiotherapeutic clinics at Stockholm, Lund and Gothenburg, where all such treatment is centralised. The Radiumhemmet has a Director, who is also Chief of the General Clinic, the out-patient and in-patient departments, the gynæcological department, the pathological department, the physical department (for the control of the technique of x-rays and radium and for the control and improvement of technique of and of protective measures), a department for follow-up and statistics, social service department, and others. The Government of the country pays the travelling allowances of pauper patients to and from the Radiumhemmet, and also to and from the central radio-therapeutic clinics. These central clinics serve as general radio-therapeutic wards and as out-patient departments for the hospitals in the locality and have among them about 9 grammes of radium. Many of the general hospitals of the country are equipped with radio-diagnostic and radio-therapeutic plants under the charge of specially trained radiologists. The surgical treatment of cancer cases is carried on in the surgical departments of general hospitals. Popular and professional instruction concerning cancer forms a large part of anti-cancer propaganda. Professor Gosta Forssell is the guiding spirit of the campaign in Sweden.

In the United States of America the cancer campaign is conducted on a larger scale, and the high standard of literacy of the general population has been an immensely helpful factor in the successful conduct of the campaign. The Memorial Hospital of New York, under the guidance of the pathologist James Ewing, affords the maximum facilities in the investigation and treatment of cancer, where the patients have the benefit of the experiences of pathologists, surgeons, radiologists and other scientists. The American Medical Association has been energetically doing anti-cancer propaganda over the radio, reaching the average man in the street, in easily intelligible language. Most of the State Medical Societies have commissions on cancer whose duty is to acquaint medical as well as lay audiences with the facts ragarding cancer, how to avoid it and how to get rid of it. The American College of Surgeons is another body which has helped to establish efficient cancer clinics, usually associated with general hospitals, all over the country with adequate apparatus and personnel for the scientific treatment of cancer; every year this College meets in conference and a symposium on " cancer is curable " is held, when the participants describe their results in curing cancer and impress fellow medical men with the need for early diagnosis and systematic treatment of cancer. Among the other organisations engaged in the same campaign are the American Association for Cancer Research, the American Society for the Control of Cancer, the American Association for the Study of Neoplastic Diseases, the Crocker Foundation of New York, besides several others, representatives of which carry the message of cancer education and cancer prophylaxis throughout the length and breadth of the country by lectures, demonstrations, through the press and platform, and other agencies. These measures have caused a perceptible diminution in the mortality from cancer during the last few years. Though much has been done in the United States to lessen the havoc wrought by cancer, a great deal still remains undone.

France, the adopted home of the late Madame Curie, has the Radium Institute which emerged with all its departments after the Great War. The radio-therapeutic department has on its staff Regaud, Lacassagne, Coutard, and other illustrious radiologists, besides pothologists, hæmatologists, etc., all of whom collaborate whenever necessary. There is also a Cancer Institute in Paris, which, like the Radium Institute, is attached to the Paris University, with facilities for research and treatment. At the other French universities and the larger towns anti-cancer clinics have been established, and the State has made liberal grants of money for the up-keep of these clinics. Besides these, education on cancer is going on apace in all the centres of anti-cancer work.

Great Britain has an organisation called the British Empire Cancer Campaign Society which co-ordinates the anti-cancer measures in some select regions of the British Empire, though professing to cover the whole of the Empire. This Society encourages and interests itself both in research and treatment. Intensive work on cancer is carried on in some of the British Hospitals, such as Middlesex Hospital, the Royal Free Cancer Hospital, and Mount Vernon Hospital, to name only a few. It will be

remembered that the five-gramme radium " bomb " was on trial at London for some time before it was temporarily given up and resumed after the loan of some more radium from the Radiumbelge of Brussels, the investigating body being designated the Commission on Radium Beam Therapy Research.

Germany has a Central Committee for the Investigation and Treatment of Cancer, founded in 1900, which in 1930 was renamed the Committee for the Fight against Cancer, whose special task is to organise anti-cancer measures throughout the Reich. There are eight centres for the diagnosis and treatment of cancer, and four of these have one gramme of radium between them, besides modern radiotherapeutic apparatus. There is a tendency noticeable in Germany to use X-Rays far more frequently than radium and the results compare favourably with those elsewhere. Radiotherapy is not centralised as in Sweden.

Belgium has organised an intensive campaign against cancer after the War with four cancer institutes at Brussels, Louvain (which is the biggest and under the direction of Prof. J. Maisin), Ghent, and Liege, associated with the respective universities, where treatment and research are more or less centralised. All these institutes are supported by government grants. The National Cancer Commission is a governmental body of specialists which subsidises the anti-cancer work and collects statistics on end-results. The National Foundation for Cancer Studies is occupied particularly with the radium therapy of cancer in the various centres. Anti-cancer leagues are responsible for cancer propaganda and for the after-care of cancer patients. Belgium has a total of 32 grammes of radium in use at these centres.

Austria has decentralised her cancer treatment in most of the university clinics of Vienna, which are all well equipped with radiological apparatus and trained specialists. The Holzknecht Institute is one of the biggest in Austria, and is situated in the third block of the General Hospital of Vienna. This Institute has four diagnostic X-ray plants, six therapeutic plants, and physical and biological laboratories attached. In addition, each of the surgical, medical, and women's clinics have their own röntgen departments. About 1300 milligrammes of radium in small containers supply the needs of the various clinics, while there is yet another 5 gramme radium bomb at the Radium Institute of Vienna, founded in 1930 on the model of the Radiumhemmet of Stockholm. All these are liberally financed by the State. The other general hospitals and clinics in Austria have separate radiological departments of their own. The Austrian Society for the Investigation and Treatment of Cancer, founded in 1911, is the central organisation which is in charge of the cancer campaign in general, and the dissemination of knowledge about cancer in particular.

Japan, a typical eastern country, is not behind the other nations in conducting a cancer campaign. In 1907 was started the Japanese Society of Cancer Research, which blossomed out into the Japanese Foundation for Cancer Research in 1933, with headquarters at Tokyo. The laboratories of the Foundation include a division of pathology and bacteriology and a division of chemistry. The Hospital of the Foundation has divisions of medicine, surgery, gynæcology and radiology, and has provision for about 30 beds. The Foundation also carries on propaganda against cancer by means of demonstrations and pamphlets, with the active co-operation of the State.

What India is doing

Compared with the above facts the position in India is not very happy. The State is indifferent and the people apathetic, and under these conditions the medical profession cannot be expected to do any tangible work single-handed. The general hospitals in the provincial capitals are scantily equipped for the radio-therapy of cancer and what little of this is done, is done in a slip-shod manner. There is *no* systematic scheme of follow-up and so it is difficult to compile any reliable statistics in order to ascertain the incidence and the results of treatment of cancer. The medical officers in State-employ usually do not evince the requisite degree of enthusiasm in the treatment of cancer, probably because most of the patients that seek treatment are far too advanced for any therapeutic measures. There are no proper facilities for training in the radio-therapy of cancer, and the few radiological institutes under Government control levy a very high fee for such instruction. The X-Ray Institute of Dehra Dun and the Radium Institute of Ranchi have been disbanded long ago on the usual plea of retrenchment. Some of the missionary hospitals use small quantities of radium whenever they are so inclined. There is no anti-cancer propaganda worth the name. In Madras city, there are only two institutions equipped for the radio-therapy of cancer, one under the Government and the other private,

the surgical treatment of these cancer cases being left to the surgical departments of the general hospitals. Now that funds are being collected to commemorate the King's Silver Jubilee, is it too much to hope that a part of the money be set apart for an intensive anti-cancer campaign throughout India and for improving the facilities for therapy?

International bodies in the Anti-Cancer Campaign

There are a few international organisations engaged in controlling cancer so as to enable workers of different countries sharing their experiences with one another for the benefit of humanity as a whole. The International Congress of Radiology is one such, which meets every three years. The first one was held at London in 1925 and the subsequent ones at Stockholm, Paris and Zurich. The next Congress is to be held at Chicago in 1937. At the commencement of these Congresses various speakers narrate the progress of anti-cancer campaigns in their respective countries. Another international body interested in cancer is the Health Organisation of the League of Nations, which frequently appoints committees to study and report on cancer problems. They have recently appointed a Commission of specialists to investigate on the radiation treatment of cancer of the uterus and to produce statistics of survival rates for five years or more, after treatment. There is another organisation called the International Cancer Congress which meets periodically for the exchange of information regarding cancer and its control.

The Cancer Problem

In countries where a successful and efficient anti-cancer campaign has been launched, there are active anti-cancer associations or leagues, who co-operate in the organisation for medical care of cancer patients, support research on and treatment of cancer, direct anti-cancer propaganda, and provide for the after-care of cancer patients. It is through the medium of these anti-cancer associations that all the forces of society are prompted to collaborate in the fight against cancer.

The cancer problem has three well-recognised phases—cancer treatment, cancer education, and cancer research. Cancer treatment involves early diagnosis, which is by no means easy, and implies the prompt and expert application of the well-established methods of therapy. Cancer education imparts that knowledge about cancer to the patient as to when to resort to treatment, and to the medical man as to what treatment to adopt in that particular case. Research on cancer represents mankind's hopes for the future and humanity's efforts to minimise the appalling loss of human life.

Early diagnosis of cancer is one of the most difficult things in medical science, and once it is done, treatment becomes a comparatively easy affair. Cancer is not recognised early by the medical profession, and never will be recognised, (?) until the medical man learns that there are no characteristic signs and symptoms for early cancer. In other words, cancer in the very earliest stages is a symptomless disease without any pathognomonic signs of its presence in any organ or tissue, at which stage treatment gives the best results. It may exist unsuspected in any of the viscera for a fairly long time without causing any disturbance of function or alteration in appearance. It is only in its late and hopeless stages that cancer exhibits the well-known symptoms of pain, ulceration, discharges, cachexia, etc., which are more than the symptoms of mere cancer, evidences of impending death. An early detection of cancer also involves a consideration of its relationship to other disease conditions and on this the question of the prevention of cancer partly rests. Prevention of cancer is, however, not on firm ground as its exact cause is so far unknown. The only prevention consists possibly in removing those conditions which have been observed to predispose to it. Avoidance of chronic irritation, removal of precancerous conditions, frequent and periodical health examination of those over forty years of age, and the avoidance of propagation in cancer families on the presumption of a hereditary transmission of cancer, are some of the measures advocated which have resulted in saving a few human lives. Early diagnosis naturally goes hand in hand with the early institution of treatment, and these two alone serve to reduce the death rate from cancer considerably.

The methods that have proved efficacious in the treatment and cure of cancer are surgery (more recently electro-surgery), x-ray therapy and radium therapy, together with adequate medical care. These methods come under the field of several specialists, who should all be pressed into service to work as a team towards the correct diagnosis and proper treatment of cancer. The cancer patients' interests are best served when there is hearty co-operation between

the general practitioner, the surgeon, the pathologist, and the radiologist without any one arrogating to himself the supremacy of his special field.

The general practitioner is usually the man whom the cancer patient first consults, and it is the general practitioner who should give his patient the correct advice regarding the treatment. But the general practitioner often lacks the necessary means for carrying out the necessary diagnostic measures. Even if he has successfully diagnosed the condition, the disease is in a far too advanced state for the institution of satisfactory treatment. Physicians sometimes assure patients that they are not suffering from cancer, without having utilised the already available facilities for determining the nature of a sore or of a lump in any part of the body. In the interests of the cancer patient, he should resort to the specialists most qualified to give whatever treatment the patient might require, and that without undue delay.

The pathologist plays an important rôle in the diagnosis and treatment of cancer. He is able to study frozen sections from the cancerous growth and his findings are helpful in deciding whether surgery, irradiation, or both should be the treatment to be adopted in a particular case. It is conceded on all hands that biopsy should be the rule not only in suspected cancer but in all cases of apparently simple chronic inflammatory lesions and in obstetrical injuries. It was once thought that biopsy helps to disseminate cancer cells but this risk has been eliminated by the " cautery punch " which is used for removal of tissue in all modern institutions. The histological grading of tumours and some of the factors that determine radio-sensitiveness and radio-resistance of tumours come under the purview of the pathologist.

The surgeon comes into the scene when the diagnosis of cancer is firmly established. The surgical removal of operable tumours is still one of the chief methods in the treatment of cancer. The scope of surgery in the treatment of cancer is, however, rather limited to only about one-third of all the cases that seek advice. Of those operated upon, about a third can be cured of their diseases and the rest require some other form of treatment than surgery. Cancer can be eradicated by surgery only when it is local, and cancer is local only in the very early stages. But when the disease has been allowed to disseminate all over the body, surgery and radiation are at best palliative only.

The radiologist gives the cancer patient a considerable amount of relief from distress and pain, especially in inoperable cases and in those for whom surgery cannot offer permanent cure. Radio-therapy with radium or x-ray sometimes gives results superior to those by surgery. For efficient radio-therapy the patient should be in sole charge of a competent radiologists who should also be a clinician and should undertake complete responsibility for the radiological treatment. The present tendency is for the radiologist not to attempt radiation therapy for which surgery is better able to help, and for the surgeon to recognise that certain kinds of new growth are better amenable to radiation treatment. Radio-therapy should be administered in well-equipped and well organised radiological institutes.

Essentials of an Anti-Cancer Campaign

In formulating and conducting a campaign for the control of cancer one should take into consideration the important fact that society as a whole should co-operate in an intelligent manner. Anti-cancer associations should include both medical and laymen and these associations would then be best fitted to accomplish the task more usefully. At least three fields of activity should be undertaken, namely, organisation for treatment, education of medical men, and education of the general public regarding cancer.

The organisation of several centres for the treatment of cancer in this country is of prime importance. Cancer clinics should be opened at all general hospitals and the facilities for diagnosis and treatment afforded therein should be fully availed of. There should be a thorough examination and diagnosis of patients followed by prompt administration of treatment. Many of the surgeons perform the surgical part of the treatment very well indeed, but the radio-therapeutic aspect is not such as one would desire. There should be *adequate* radium and x-ray equipment, at least in the larger centres of population, and only *qualified* and experienced radiologists should be put in charge of such treatment. The radiotherapeutic care of cancer patients should be as well organised, if not more, as the surgical care, and the radiotherapist should be as much a medical man as any other individual entrusted with the treatment of patients. The collaboration of other members of the hospital staff will be immensely useful in what should be a group attack on cancer. Reliable and accurate case records *must* be maintained, and the history, earliest

symptoms and signs, and the treatment should all be mentioned; any details of progress and after-history for at least *five years* after treatment should also find a place, so as to be useful in the compilation of statistics. Opportunities of performing autopsies. should be taken advantage of. Every case of cancer should be treated systematically, as even palliation brings great relief of distressing symptoms. Homes for incurables should be established at the larger centres. The anti-cancer associations would be useful in financing or otherwise rendering assistance to these cancer clinics, in which the State and other public bodies could lend a hand. The present-day tendency is to centralise cancer treatment, particularly radiotherapy, at a few places, in view of the high cost of the equipment necessary.

Education of medical men to enable them to recognise cancer in its incipient stages is necessary if any progress is to be made in the control of the disease. Medical students should be taught the fundamentals of cancer. Post-graduate courses on cancer and radio-therapy should be provided for those seeking it. The medical practitioners should have sufficient training to know the indications for surgery and irradiation, and to advise their patients accordingly. They should be always on the alert for the earliest manifestations of cancer. The medical associations should organise scientific lectures and symposia on cancer and its various aspects, with proper emphasis on its early diagnosis. Medical men should be encouraged to report their experiences in the successful treatment of cancer, so that the profession might be impelled to work for better results. Above all, medical men should be taught to bestow more interest and sympathy on cancer cases and to instil courage and hope into the patients, on whom life often hangs heavily.

Education of the lay public concerning cancer ensures their co-operation in an anti-cancer campaign. The public should be educated to seek expert medical aid as soon as they notice any continually growing tumour, or any ulcer which does not heal, or any other bodily inconvenience, however slight it might be. They should be made to realise that delay is dangerous in these cases, as in other diseases. All the relevant information about cancer should be dinned into their ears frequently and persistently and they should be encouraged to demand and make use of facilities for periodic examination. But care should be taken not to scare them away and frighten them. Cancerphobia should be avoided. All the agencies of publicity should be utilised—the press, platform, pamphlets, demonstrations, radio, etc., to disseminate knowledge regarding the value of periodical routine health examinations, and to dispel the almost universal belief that a diagnosis of cancer carries with it a sentence of death. The educative campaign should not scare people to death but should swerve them into life. In this endeavour the anti-cancer associations should, in the inimitable words of Forssell, " act as pilots to guide the embarkation of the cancer patients, laden with despair, from the uncertain region of private help to the peaceful port of the general hospital; the rays of Röntgen and Becquerel are the lighthouses which will guide them."

Perhaps a word about cancer research will not be out of place. Investigation on the ætiology and biology of cancer has been, and is, going on in several countries, but the exact cause of the condition has so far eluded the most acute scientific minds. Several so-called cures for cancer have been brought out by several workers but none has been proved to be the absolute cure. An anti-cancer serum has been the aim of some workers, but no therapeutic results have been obtained in that direction. Things which elude one's grasp are sought for with greater vigour and enthusiasm. That the cause of cancer is unknown should not be an excuse for slackness or indifference in instituting a campaign for a systematic and scientific application of present-day treatment. On the other hand, there is no certainty that the battle against cancer would be won if the specific cause of cancer be identified. It is not a forlorn hope that the discovery of the cause of cancer might lead to the prevention of cancer and the prevention of immense agony and suffering of valuable human lives.

THE ANXIETY STATE

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The syndrome known as the anxiety state is very commonly met with both in the practitioner's consulting room and in the charitable hospital. But it is often missed or mistaken for want of knowledge in the profession. Sometimes one comes across cases of a pure state of morbid anxiety. It is, however, more usually found in association with marked physical illness, like diabetes or exophthalmic goitre. The patients mostly display an attitude of apprehension or fear of an impending catastrophe. Watch a case come into the room. His nerves are on edge. He steps in nervously after looking to either side. The slightest noise makes him jump. He sits down in an uncertain fashion. Anxiety is writ large on his features. The eyeballs are prominent. The hands show a fine tremor and are usually cold and clammy. He probably complains of flatulence, palpitation and sleeplessness. A busy doctor labels him as a case of dyspepsia and prescribes a digestive tonic with a general admonition about taking more exercise and cutting down his smokes. At the next visit the medicine may be changed to please the patient, who will sooner or later move on to another doctor in the vain hope of finding his cure in some new product of the synthetic chemist's laboratory. Many such cases ultimately drift into the hands of unorthodox practitioners who are prepared to place inexhaustible patience at the patient's disposal and unconsciously help him by going into the matter in great detail. A nodding acquaintance with modern psycho-therapy will assist the medical man to recognize and retain these patients.

The symptoms of the anxiety neurosis are numerous on the physical plane, namely, flatulence, diarrhœa, profuse sweating, vertigo, paræsthesias, tremors, loss of weight, feeling of suffocation and cardiac disturbances. In the psychic sphere there are lack of concentration, irritability, insomnia, fatigue and phobias of all kinds. It is important to distinguish this condition from neurasthenia. The chief feature of neurasthenia is marked fatigueability. In the anxiety state fatigue is not prominent and may be even absent. The chief importance of this distinction lies in the prognosis which is much more favourable in the anxiety state than in neurasthenia.

According to FREUD the main cause of the anxiety neurosis is the disproportion of sexual satisfaction and excitation. In the realm of sex relationship psychic satisfaction is as important as physical gratification. If complete satisfaction does not follow sexual excitation the surplus excitation left over diffuses itself all over the body and may attach itself to things and ideas of an asexual character. The stress of life to-day forces numerous human beings into such a position. For example coitus interruptus is a fruitful source of the condition before us.

ADLER, on the other hand, thinks anxiety results chiefly from a frustration of our self-assertive instinct. The human infant is the most helpless creature born. While a young bird flies away from the parent's nest in a few days and makes a home of its own, the young child has to be carefully reared and nurtured for many long years before he can stand on his own legs in the community. Look at the world through the infant's eyes. Everything is so big and out of reach. All round him are tall, powerful people whose word is law. No wonder the poor infant acquires a feeling of inadequacy—the inferiority complex beloved of journalists. Then he makes a wonderful discovery. Just a howl and his parents come to him—his unfed slaves. He has acquired a sense of power which compensates for the inferiority feeling and the balance of his self-esteem is restored. If he is lucky his parents teach him the essential lesson of social co-operation, both by precept and example, at an early stage. The self-assertive instinct is diverted into socially useful cannels which know no bounds and cause no frustration. The individual fits into the pattern of the community.

He makes an investment of his personality in the business of social usefulness, for example, by becoming a doctor. He reaps a heavy dividend in the shape of his own happiness.

But some people have never learnt this all-important lesson. They constantly ask of life "what can you give me?" instead of asking themselves " what can I put into it?" These are the people whose self-assertive instinct will receive a set back one day. This frustration may lead to fear and anxiety, which tend to disintegrate the personality.

It is generally believed that the anxiety state may result from a failure of self-assertion or of sex or of some other kind.

Overwork is often blamed for causing a nervous breakdown. But it it only a face-saving device. Quite unconsciously, of course, we blame excess of work for something arising within us from deeper causes, which we are not prepared to admit even to ourselves. Worry kills, not work. Look at the used key. It is always bright. Sloth rusts away faster than labour wears. It is the busiest people who always find time for more work. But emotions are the real springs of action. Competitive sports exhaust more than sustained physical labour. Competitive examinations are the worst offenders in this respect. The prolonged tension before such examinations and acute suspense while waiting for results are enough to upset many people. The emotions started at such a time may continue long after the situation has changed. Soldiers, who have retired from the din and danger of the battle front, often jump up on hearing an unaccustomed noise. One may have justifiable worry of a business, of domestic or sexual character. The emotion it generates should evaporate when the cause disappears. But it often diffuses itself out of all proportion and gets attached to completely unrelated matters. For instance, one may have good reasons for dissatisfaction with his social environment. The people who come in contact with him may not be as clean as he would wish. But the state becomes morbid when he acquires a disproportionate fear of dirt and is unhappy unless he washes a hundred times after each hand shake.

What can be done for the subject of morbid anxiety? First of all, one must root out the idea that these fears are imaginary. To the patient they are as real as reality itself. The handling of such cases requires limitless patience. If the practitioner cannot or will not give enough time to let the patient narrate his long story, common fairness to both demands that the case be referred to a reputable psychiatrist. Both the profession and the public should understand that the modern psychiatrist is much more than a " loony doctor." He is as much interested in the preventive side of insanity as in the care of the unfortunate waifs and strays of society, who come into the mental hospital. It is in the anxiety state and similar psychoneuroses that modern psycho-therapy can show good and even brilliant results. But a large proportion of cases can be easily handled by the general practitioner with some training and much patience. Let the patient make himself comfortable and relax completely on a couch or in an easy chair. Encourage him to give you a full chronological history of his ailments. Avoid leading questions. Do not interrupt his flow of ideas. Let him see you are as keenly interested as himself in his, to him, unique case. Next make a thorough physical examination from head to foot to convince yourself and still more to win his confidence. There must be no hesitation in your voice or gesture. You may prescribe massage, exercise, or tonics so long as you and the patient understand that they are mere adjuvants. But you must look for the real cause of his condition by digging deep into his unconscious store of episodes of his past life. When you hold a mirror to his soul and let him see himself as he was and is you will work the desired change in his personality. It is not so simple as it sounds. But it is not possible to go into greater detail in a short paper for a busy meeting.

It would perhaps be helpful to give a brief resume of the modern concept about the effect of emotion on the body. This is the age of motion. Stirring of the air into waves of certain lengths results in sound audible to the human ear. Another kind of motion gives us light, yet another heat. Then there are radio waves which bring us music from the far ends of the earth on a wireless receiver. From the disharmony between our desires and cold reality results emotion. Emotion produces vibration in the whole personality. It irritates the endocrine system. Imbalance of the endocrine glands leads to physical disturbances like diabetes and exophthalmic goitre among others. The doctor's path is now clear. He must trace such syndromes back to the original cause. The attempt to patch up endocrines or the treatment of symptoms will not cure. Let me conclude with the wise words of Hippocrates " man, know thyself."

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In Memoriam

Scarcely had we recovered from the shock received by the death of Dr. N. Chandra of Calcutta than we again received the news of death of Drs. I. T. Mitra and N. Sen of Delhi. It appears that the death toll amongst the members of the Association is very high. We have, during the year under review, reported the deaths of six of our members; besides, there are instances when due to inadequate informations we could not publish a suitable obituary.

Dr. Ishantosh Mitra was born on the 13th June, 1873, at Sargodha, Punjab. He lost his father at the age of 3 and his mother at the age of 12. He graduated from the Lahore Medical College in 1895 and entered the Government service in 1896. He served mostly in Rajputana & the Indian States, the main places being Bewar, Ajmere, Jaipur, Indore and Bharatpur. He left service in 1912 and settled down in Delhi. In 1918 we found him as one of the active Congress workers. He was the founder and President of the Delhi Medical Association; he was also the founder and President of our Delhi branch. We met him last in December, 1934, during the XI All-India Medical Conference and we have no doubt that his guidance was chiefly responsible for the unique success of the last Conference.

We were informed that the Calcutta branch of our Association was sometime ago considering a scheme of a Benefit Fund for its members. We are also of opinion that it is already time to start such a Fund, not for a local branch only, but for all members of the Association. We would request all our constituents to consider the proposal and to favour us with their opinion.

MODERN THERAPY IN GENERAL PRACTICE

TREATMENT OF PNEUMONIA*

GENERAL TREATMENT

W. H. PALMER, M.B., Ch.B. (Glasg.)

Johannesburg

The treatment of pneumonia should be based on overcoming the toxic effects of an acute infectious disease. The prime cause of death is attributed to a right heart deficiency resulting from toxæmia and associated with lack of air-space in the lungs. It is not necessary to differentiate between the different types of pneumonia as regards treatment, as since the influenza epidemic of 1918 the classical type of lobar pneumonia is rarely seen in this country or elsewhere.

The condition nowadays is caused by a mixed infection, and results in the majority of cases in an irregular pyrexia and simulates a broncho-pneumonia type of disease.

Regarded as an acute infectious disease, the first essential treatment is *isolation*. Compulsory notification of the disease with a modified form of quarantine was adopted in Pittsburg, U.S.A., in 1924. It was also introduced in Washington.

In Pittsburg it was claimed there was in 1925 a fall of 26.5 per cent. in the death-rate from pneumonia, as compared with 1923, before notification and quarantine. I have not been able to obtain more recent figures, but compulsory notification and modified quarantine in epidemic periods are strongly indicated, and even with the present sporadic complaint deserve serious consideration. Such procedures would certainly focus public opinion on this dread disease which, as the cause of death in the Union, is second to cardiac disease and higher than that of cancer. We have an anti-cancer campaign, why not an anti-pneumonia campaign?

Prophylactic Treatment:—Individuals exposed to infection or in a run-down state should be encouraged to lead an open-air life, with physical exercises involving full expansion of the lungs. The resisting power can be raised by the administration of vitamin products, such as halibut oil, radiostoleum, preparations of iron and arsenic and vaccines, either stock or autogenous.

Symptomatic Treatment.—From statistics it would appear that the treatment of pneumonia has not advanced in the last hundre years. PATTERSON gives some interesting figures of the mortality at various dates.

Authority	Date	Cases	Mortality per cent
Rosori	1808—10	832	20.8
B.M.A. Collective Investigation	1883	1,060	18
Guy's Hospital	1891—96	——	25.6
Melbourne Hospital	1919—22	——	21.3

In comparison with the figures, I should like to quote Abraham's study of 558 cases of soldiers on active service and treated in a military hospital.

Date	Cases	Mortality per cent
1931	558	10.9

Only two patients of this series were over 50, and both died. If anything, Abraham's figures tend to show that physical well-being and activity have a distinctly favourable influence on the mortality rate. This confirms Osler's old record of the death-rate in the German Army—40,000 cases with a death-rate of only 3.6 per cent. Robust, active men are therefore less prone to the disease. We are again brought back to the important role the Public Health Service could play in combating pneumonia by means of slum clearance, physical culture and allied propaganda.

Confronted with figures, the pessimistic type of practitioner is liable to assume that the best treatment is no treatment, apart from nursing. I am not

* Abstracted from a " Symposium by Southern Transval Branch" published in South African Medical Journal, Vol. IX, No. 8, 1935

going to discuss the question whether the figures are influenced by improved diagnostic methods or such factors as increasing potency of microbes. I merely wish to take up the attitude that statistics are notoriously unreliable, and the recovery of a desperate case of pneumonia gives consolation to the medical attendant and encourages him to renewed efforts in his attempts to overcome " the captain of the men of Death."

Early diagnosis of the condition and removal to hospital or nursing home I regard as an advantage in treatment. Rest in bed and avoidance of all unnecessary movement are highly desirable. A stimulating expectorant mixture is usually administered. Application of antiphlogistine to the affected part for the first three to four days has been almost a ritual, and is, in my opinion, beneficial. Subsequent daily painting of the part with tin. iodi. carries on the effect of a counter irritant. After three days the painting should be carried out on alternate days to avoid blistering of the skin. Administration of copious fluids with glucose helps to build up the reserve power. I have been impressed with it as having a satisfactory effect as an oral stimulant and antiseptic. Alcohol in the form of whisky, brandy or champagne I am not averse to administering in most cases, both for its food value and stimulating effect, despite the fact that it is said to inhibit the immunizing response of the patient.

Digitalis therapy has sustained a set-back since the investigation of Wyckoff and others, which tended to show that the routine administration of digitalis was useless and dangerous. Nevertheless, the old method of endeavouring to keep the pulse-rate down near the 120 mark by administration of digitalis seems rational. Further, digitalis remains the most potent cardiac regulator, and if one visualizes the infectious process as pursuing a course of invasion, defervescence and lysis, then cardiac control till resolution occurs seems not a fruitless aim.

We control pyrexia by sponging, air hunger by the administration of oxygen, and it seems rational, therefore, to influence tachycardia by means of digitalis. If utilized, the drug must be administered in the early stages, because its action is not felt for from 24 to 48 hours after administration, and being a cumulative drug, if administered late in the illness, the patient would be comatose before the required stabilization should be obtained. The dosage, of course, depends on the individual case.

Strophanthin I rarely use, and never if digitalis has been previously administered.

As a temporary stimulant practitioners commonly use strychnine, coramine, camphor and caffeine sodium benzoate. Their effect is evanescent, but they are particularly indicated in the rare cases of crisis termination.

Pain from associated pleurisy, sleeplessness or delirium is usually diminished by heroin hydrochloride, paraldehyde or chloral and bromide.

Cyanosis is benefited by administration of oxygen, even with the crude funnel method, but preferably by nasal catheter, or in a plethoric patient by bleeding.

Injections of solvochin, transpulmin and numerous similar products I have used empirically, but cannot gauge their influence. S.U.P. 36 I have also administered, and am persuaded that some benefit might result if it was administered within the first 24 hours of the onset of the disease.

Convalescent Treatment.—Injections of sodium cacodylate with administration of massive doses of iron appear to influence myocardial regeneration, blood deficiency and anorexia.

Assisted with prolonged rest, administration of vitamins A and D, as in halibut oil, and subsequent open-air treatment, the lucky and exhausted convalescent regains his health, and often leaves the institution a healthier man than before the onset of his illness.

With pneumonia remedies come and remedies go, and it is not possible for me to mention all the treatments continually appearing in journals. The specific cure is still to be found, and I personally look forward to a more revolutionary advance in therapy in the development of serum treatment.

SERUM TREATMENT

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In this paper I only deal with non-European cases. My experience with this form of treatment dates from about the beginning of the year 1930. Early attempts were made with pneumonias, apparently lobar in type. From the first, one of our difficulties was the differentiation of the clinical types, lobar and broncho-pneumonia in the early stages. I had thought at first that the distinction could be made on clinical signs of the consolidation of a lobe,

an idea which proved to be wrong by visits to the autopsy room, where many of these cases proved to be a confluent broncho-pneumonia. Nor did the difference pleuro-pneumonia and non-pleuro-pneumonia prove of any practical value. The clinical findings in the two classical types of pneumonia have altered since student days—a change which has been associated with influenza epidemic of 1918 and 1919, and which is possibly due to some sudden change in the relationship between parasite and host.

It was, therefore, resolved to treat all our cases of pneumonia by means of a serum, and to treat as early in the course of disease as possible, without differentiation, as long as the condition was a pneumonia *per se*. By this time the concentrated anti-pneumococcal serum of Grasset and Buchanan came into being. This serum was produced in horses by injection of an antigen derived by Buchanan's method of treating pneumococci; organisms are treated by a special process whereby horses developed anti-bodies very rapidly. The organisms are those prevalent at the time, five to six types being used as a rule to produce a polyvalent serum. Types I, II and III American correspond to Group C. B, and E Lister and Type IV is represented by a heterogenous collection, Group A. D, F, G, and H, etc. These groups are decided by agglutination phenomena. The group or type incidence along the Reef is different from the incidence in other countries in which typing has been done. Since the seasonal prevalence of type is variable, the Institute has arranged for the prevailing types to be continuously studied by Dr. Ordman, and for a corresponding polyvalent serum to be produced. The importance of the quicker production of serum is thus manifest. Such serum is treated by precipitation methods by Dr. Grasset, and the englobulin portion containing the anti-bodies is separated into a concentrated moiety.

Technique.—The unconcentrated serum was given intravenously in doses of 100 c.c. followed by doses of 50 c.c. at intervals of 12 to 24 hours. But it was felt that with the concentrated serum this was unnecessary, as the titre was high and absorption was quick enough by the intramuscular route; risk of anaphylaxis was thereby diminished. Doses of 25 c.c. were given, repeated at 12 to 24-hour intervals (generally the latter) to a total of 100 to 125 c.c. in all.

Sensitivity tests were done eventually on all cases by injecting 1 c.c. under the skin and watching the reaction.

We have rarely had to have recourse to desensitization. This is done by injection subcutaneously of 2, 4, 6 and 12 c.c. in the course of 1½ hours at equal time intervals.

The injection of adrenalin m.v. at the time of the administration each day was made together with the exhibition of calcium lactate grs. x. t.d.s. by mouth to obviate as far as possible serum reaction. This condition was rarer than in Europeans, and when it showed itself by the occurrence of urticarial rashes and joint pains with temperature, I have lately used Calcium Ostelin subcutaneously with some success.

Stephen Lewis and I have collected these results, and have separated them as far as possible into lobar and broncho-pneumonia groups. A paper on the subject of pneumonia containing the results was read on our behalf at the last congress at Pretoria. All cases which died within 24 hours of admission to hospital were rejected, as they were moribund and did not receive serum treatment, also infants and children, in which we did not use the serum. For obvious reasons, these patients would have vitiated our conclusions.

Results: Lobar Pneumonia

1930: One case with unconcentrated serum intravenously—recovery.

1931: Five cases with concentrated serum—all lived.
One case unconcentrated serum—died (complication of ulcerative endocarditis).

1932: Eleven cases—eight treated without serum—one death.

Three cases with serum—all lived.

1933: Twenty-three cases with serum
Fourteen cases without serum.

There was little difference in mortality between the treated and untreated cases, but in these treated cases convalescence was shorter.

Total, 171 cases in our series (1924—1933).
32 cases, but serum motality rate 12 per cent.
Untreated cases mortality rate 20 per cent.

This latter statement does not necessarily prove the efficiency of serum treatment, as the virulence of the infection varies with different years.

Broncho-pneumonia

Concentrated serum was given in 1932 and 1933 in 49 cases with a mortality rate of 6 per cent. In

1933, about half the cases received serum, the remainder not receiving this treatment. The mortality rates were 7 per cent. for the serum cases and 44 per cent. for the non-serum cases. These cures were contemparaneous.

It is not accepted that to be effective the serum must be given as early as possible, and anyhow before the end of the fifth day of illness. Our patients delay their entrance to hospital, and the date of onset is also difficult to ascertain.

On the whole, the serum has lessened the time of convalescence, and it is my opinion that the complication of empyema is less in the cases thus treated. Buchanan and Staz, in a private communication to me, have come to an independent opinion that the period of convalescence was diminished (Crown Mines hospital cases). My series of cases is too small to permit of any certainty in regard to the efficiency of serum.

In order to test its specificity of late we have sent the sputa of the cases to Dr. Ordman for typing. Unfortunately, only a percentage of these have reached him, and it is here where team-work must be organized. This really requires the assistance of an individual who can devote most of his morning to the collection of sputa and the correlation of results.

The annoyance of the removal of one's houseman to fill wastage in the European hospital would also be obviated. It is my opinion that a questionnaire should be issued to the house-physician in which all the salient points are mentioned, and that such a questionnaire should be thoroughly answered before the notes are completed by the registrar.

The question of specificity is the all-important problem to be discussed. This is apparent if one reflects on what I have already said about the clinical differentiation of the classical type of pneumonia in the early stage and on the predominance in some cases of pneumonia, in others of streptococci or staphylococci as the influenza bacillus or the bacillus of Friedländer. The predominance of one or other of the organisms can now be exterminated by direct smears from sputa. This is shorter and probably as satisfactory as the completed agglutinations and precipitins metioned and used by various observers, whether these are performed on the precipitin properties of the urine or by the intra-peritoneal injection of mice with sputa and the subsequent agglutination of the organisms so grown.

On the Rand one of our difficulties is the multiplicity of the Group IV organisms already mentioned. Our serum has to be of the polyvalent type in order to save our horses. It may be effective in pneumonias other than the pneumococcal variety, but the best results in my case of late have been in those in which the pneumococcus was found predominantly in the sputum. I believe, however, that some of my patients benefit by the serum treatment when other organisms than the pneumococcus are predominant in the sputum. It is as certain that the pneumococcus occurs in certain broncho-pneumonias as it is that the streptococcus is predominant in certain lobar cases. And in at least one case of lobar pneumonia the bacillus of Friedländer was found as the outstanding factor.

The question of specificity of the serum thus arises; from what I have said it follows that I cannot state definitely from my own experience that the serum is a specific. The importance of concomitant treatment must also be estimated. For instance, in our sera cases adrenalin was extensively used—a therapeutic agent employed by many in cases untreated by serum.

It is here where our questionnaire will prove of value if it asks what is the predominant organism, on what date of illness the temperature finally ceased, when did convalescence begin, were there any complications, what was the dose and route of the serum, and was any concomitant treatment adopted?

Buchanan himself is not convinced of the specificity of serum. He considers that serum treatment may be concerned with alteration of the colloid physio-chemistry of the pathological state. This item is receiving the attention of MacDonagh and others in several forms of disease.

W. D. Sutliff and others have compared the effect of non-specific serum (anti-meningococcal) with specific prevalent serum for a certain type of pneumococcus in cases of lobar pneumonia, and have found only a temporary and fleeting improvement with non-specific and a permanent effect with the specific serum. In America much work on lobar pneumonia has been done with Felton's serum-specific monovalent for each group of pneumococci. Felton prepares his serum by a different method from that of the South African Institute for Medical Research. Cecil observed the effect in carefully controlled investigations and has found a reduction in mortality

in Group I pneumococcus from 31 to 20 per cent.; Group II results were a fall from 45 per cent. to 40 per cent.

The results of ARMSTRONG and SLEYH JOHNSON and COWAN and others agree with them. FINDLAND and SUTLIFF use heroic doses of Group II serum and have reduced the mortality in this group from 40 per cent. to 20 per cent.

A comparison of my results with the above is impossible, firstly on account of the paucity of our cases, and secondly because our cases have not been controlled to the extent that is possible in America. It must be accentuated that our serum differs entirely from that of Felton's in that it is polyvalent for five or six types of pneumococci and varies with the year's prevalence.

The use of serum is in the melting-pot, but I feel that it is along these lines that we shall eventually be able to reduce the mortality of this dread disease.

I wish to thank Drs. BUCHANAN and ORDMAN for their interest and help in this matter, and Dr. STEPHEN LEWIS for her help in collecting data.

CURRENT MEDICAL LITERATURE

MEDICINE

Some Observations on the Allergy to Tuberculin of Guinea Pigs Vaccinated with B. C. G.

A. FRAPPIER and V. FREDETTE's (*Canadian J. of Res.*, 12:2, 1935) experiments indicate that the development of allergy in guinea pigs vaccinated with B. C. G. (0.0025, 0.005 or 0.010 gm.), is relatively slow and varies with individuals. It is possible to measure the degree of skin sensitivity by serial intradermal tests with decreasing doses of tuberculin. Classification as to degree of allergy and study of the development of hypersensitivity can hardly be effected on the basis of strong doses of tuberculin. In fact, early positive reaction is not always a sign of lasting hypersensitivity and many guinea pigs, which respond at the same time to a strong dose of tuberculin, can be differentiated as to degree of hypersensitivity by tests with smaller doses of tuberculin. Most of the subcutaneously vaccinated guinea pigs developed allergy in from five to twenty days. The maximum allergy was reached in from one to two months. In a large number of the more sensitive animals the dose was then reduced to 0.00001 c.c. and the reaction was maintained during the third and fourth months and perhaps longer. A few animals were sensitive to 0.000005 c.c. in the fourth month.

The observation has been verified that in subcutaneously vaccinated guinea pigs there is, as a rule, no correlation between small variations in the size of the dose of B. C. G. and the degree of allergy produced. Nevertheless, of the animals vaccinated intraperitoneally, those inoculated with the larger quantities of bacilli were more highly sensitized. This distinction was made by means of the smaller doses of tuberculin.

Psychological Factors in Diabetes

W. C. MENNINGER (*Journ. Nerv. and Ment. Dis.*, January, 1935, p. 1) records conclusions based on the study of twenty-two cases of diabetes in which medical attention was sought because of mental symptoms. As judged by their glycæmic levels they were mild cases. Six of the patients were aged, and had well-developed arterio-sclerosis; in two of these the onset of the two conditions was simultaneous, in two the diabetes developed in the course of the psychosis, and in two the psychosis appeared after the individual was recognized as diabetic. In five out of the total series the diabetes is classed as psycho-genic because the obvious psychopathology was evident before the development of glycosuria; the mental picture was quite different from the toxic state occasionally seen in hyperglycæmia or hypoglycæmia; the course of improvement of the mental picture was paralled by the glycæmic and glycosuria levels, with fluctuations in these as emotional upsets occurred in the psychic life; the metabolic disorder was indicated by a persistent glycosuria (without dietary control or insulin), retarded glucose utilization curves of the blood sugar, and a response to dietary and in some cases insulin therapy; and with mental recovery the diabetic condition cleared, requiring neither insulin nor dietetic restriction, apart from prohibition of excessive eating of carbohydrates. The author adds that several other cases in the series suggested the possibility of such a causal relationship. He believes that emotional conflicts cause not only mental disorder but also metabolic disturbance, and adds that certainly the psychological factors greatly influence the course of an established diabetic state.

Indications for Auto-hæmo Therapy

E. ACHITOUV (*Presse. Méd.*, December 15th, 1934, p. 2016) discusses the employment of the patient's own blood as a therapeutic measure and as a vehicle for various medicaments used in injections. Owing to the efficacy of auto-hæmo therapy in cutaneous affections, he practised this method in various mucosal conditions, and has obtained beneficial results in hyperchlorhydria, muco-membraneous enteritis, conjunctivitis, rhinitis, pharyngitis, bronchitis, leucorrhœa and non-specific urethritis. It has also proved of value in certain cases of gastric ulcer, especially during painful crises, in pellagra, herpes zoster, and in depressive or melancholic psychoses. As a vehicle, ACHITOUV has found that, in suprarenal therapy, an addition of 5 to 10 c. cm. of the patient's blood to the injections prevents the ill after-effects of

this treatment, and the addition of the same amount of blood to insulin injections eliminates all hypoglycæmic symptoms and enables a constant dosage to be given. The patient's blood has also proved an excellent vehicle for acetylcholine (in preventing the hyperchlorhydria following this treatment), arsenical preparations, ephetonine, and for the various agents employed in protein therapy.

Theobromine in Peripheral Vascular Disease

G. W. SCUPHAM (*Arch. Int. Med.*, November, 1934, p. 685) reports clinical observations which indicate that theobromine and its salts—particularly theobromine sodium acetate—act as peripheral vaso-dilators, and are useful in the treatment of peripheral arteriosclerosis and early cases of thromboangitis obliterans in which there is a large element of angiospasm. They also bring about symptomatic improvement in intermittent claudication, and some repair of the loss of tissue integrity has been noted. No benefit was obtained in functional disturbances including Raynaud's disease and acrocyanosis, nor in diabetic arteriosclerosis and gangrene. As indicators of improvement, in addition to the usual criteria used in diagnosis, measurement of the surface temperature was made by a thermo-electric couple of the usual type, no change in temperature of less than O. 1° C. being considered as pertinent. Theobromine medication is said to be particularly applicable to cases of arterial disease in the aged, in whom more energetic measures are impossible, provided that there is sufficient capacity for dilatation of the affected vessels. Patchy calcification of vessels, as demonstrated radiographically, was shown to be amenable to treatment, whereas when calcification was more nearly continuous the symptoms were much less or absent. In thrombo-anginitis the treatment was unsatisfactory if the degree of occlusion was marked or there was extensive organic impairment of the larger vessels. The author suggests that the effect of theobromine is local, possibly a reduction of the increased irritability of the musculature of the diseased vessel wall.

SURGERY

Drainage in Peritonitis

G. W. COTTIS and H. W. INGHAM (*New York State Journ. Med.*, January 15th, 1935, p. 49) emphasize the vital importance of recognizing when drainage is necessary in peritonitis. It is impossible to drain the general peritoneal cavity, but truly generalized peritonitis is comparatively rare, and is usually fatal in any case. Deaths from peritonitis *per se* without any operation being concerned is almost always due to an overwhelming toxæmia, intestinal paralysis and stasis not being important factors. On the other hand, after an operation with drainage, ileus is probably the most common cause of death. In all types of peritonitis except tuberculosis early removal of the source of infection should, and can usually, be effected. Purulent and badly contaminated fluid exudates should be removed—preferably with a Poole suction tube—to lessen absorption. The sub-peritoneal tissues are no more resistant to infection than are connective tissues elsewhere. The endothelium must be preserved by the avoidance of rough sponging and of dry packs. Drainage is necessary in retro-peritoneal infections, localized abscess with doubtful integrity of the peritoneal lining, and peritonitis with uncontrollable oozing of blood. The more widespred the peritonitis the less the indication for drains. The skin incision should be left wide open, but loosely packed with bipp gauze until the subcutaneous fat and fascia appear clean. If the muscles are sutured, interrupted satures loosely tied should be used, with a drain to the pre-peritoneal space. Pyrexia occurring after forty-eight hours is usually due to infection of the abdominal walls. If in intra-abdominal residual abscess forms it should be allowed to localize itself and become palpable before it is drained. The authors claim that it has been shown that the avoidance of drainage reduces the danger of post-operative obstructions, perforations and adhesions. It also results in a lowered mortality, lessens suffering, and shortens convalescence.

Sarcoma of the Stomach

EMMA KESSLER (*Fortschr. a. d. Geb. d. Röntg.*, 50:247-263, 1934) reports the histories of three patients with primary sarcomas and one with a metastic sarcoma of the stomach. In all of these cases a clinical and radiologic diagnosis of carcinoma had been made. In a series of 58 cases of sarcoma of the stomach collected from the literature the growths were situated on the greater curvature in 14 cases, at the pylorus in 14 cases, on the lesser curvature in 11 cases, on the anterior wall in 8 cases, on the posterior wall in 6 cases, and at the cardia in one case; in 4 cases there was diffuse infiltration of the entire organ.

Histologically these growths can be classified as lympho-sarcomas, fibro-sarcomas, myo-sarcomas, and more rarely angio-sarcomas, myxo-sarcomas and neurogenic sarcomas. (It is probable that a certain number of examples of Hodgkin's disease of the stomach are included among the histologically diagnosed sarcomas.) As a general rule, the sarcomata are found in younger individuals and more often involve the greater curvature of the stomach than do the carcinomata. However, the correct pre-operative diagnosis of these tumors is extremely difficult. Several drawings and a röntgenogram are included.

Colostomy

W. GABRIEL and O. LLOYD-DAVIES (*Brit. Jour. of Surg.*, January, 1935, p. 520) consider that the chief value of colostomy is afforded by the relief of obstruction, and also of symptoms such as diarrhœa, tenesmus, pain, bleeding and discharge. In cases of obstruction, recto-vaginal, recto-vesical, or vesico-colic fistula, colostomy gives considerable relief, and is a valuable procedure for the relief of inoperable rectal cancer. The operation is most successful if it is carried out at an early stage in the disease, as later the operative risks are greatly increased. A study is given of 500 cases of palliative colostomy for inoperable rectal cancer, and shows a mortality of 13.4 per cent. as compared with 2.5 per cent. in a parallel series of 470 operable cases in which an excision of the rectum was planned or carried out as a second-stage operation. The preponderance of males over females was in the propertion of 3:1, and the greatest number of cases occurred between the ages of 50 and 70. The causes of death in order of frequency were cardio-vascular and pulmonary complications, peritonitis, paralytic ileus, mechanical obstruction, toxæmia, prolapse of the small intestine, uræmia, and cachexia. Late complications after colostomy were stenosis, ventral hernia, spur retraction, prolapse, and fistula into the colon. Details of the technique of colostomy are given; it is most frequently made through a left oblique muscle-splitting incision. After colostomy the patient should be encouraged to try and obtain natural colostomy actions, and if this fails for reason of loose or irregular action, then daily soap-and-water wash-outs must be started. In very infirm subjects of the poorer classes permanent institutional treatment is often desirable after colostomy.

Tumours of the Testis

A. DESJARDINS and G. COUNSELLER (*Amer. Journ. Surg.*, January, 1935, p. 71) consider that testicular neoplasms are by no means rare, and are in many cases unrecognised, a diagnosis of tuberculous epididymitis, hydrocele, or varicocele being made. The greatest number of orchidic neoplasms develop between the third and sixth decades of life, although they may be found at any age. The right and left testes are almost equally affected, and in rare instances the involvement may be bilateral. In a series of 155 cases, it was not possible to trace any relation between the tumour and an undescended testis or between trauma and testicular disease.

Simple excision of the affected testis is the operation most commonly used, but this gives a permanent cure in only a small percentage of cases. In nearly every case embryonal carcinoma and mixed or teratoid tumour of the testis metastasizes to the abdominal para-aortic glands at an early stage in the disease, and only later to the lungs and other organs. Symptoms are those of vague or definite gastro-intestinal disturbances which increase gradually in severity. In many cases, these symptoms are associated with an abdominal mass, and if the abdominal wall is muscular, a sensation of abnormal resistance is obtained. Ability to recognize metastasis is important as regards treatment, as in this case neither orchidectomy nor radical operation should be undertaken. Statistics are given showing the results of treatment, in the series of 155 cases, by means of simple excision, X-rays, or a combination of the two. An absolute conclusion as to the relative value of the three methods of treatment could not be drawn, but it was considered that better results were obtained from combined orchidectomy and X-rays therapy than from one or other alone. In cases of embryonal carcinoma X-ray treatment alone is preferable, whilst for mixed or teratoid tumours surgical removal combined with thorough post-operative irradiation is indicated.

PATHOLOGY & BACTERIOLOGY

Jaundice from Spasm of the Sphincter of Oddi

I. PAVEL (*Wien. klin. Woch.*, December 7th, 1934, p. 1485) deplores recent tendencies to regard cases of non-obstructive and non-hæmolytic jaundice as due invariably to hepatitis; he adduces further

evidence that a certain proportion of such cases are due to spasm of the sphincter of Oddi, and remarks that the reliability of tests of liver function has been overestimated. The following signs of reflex spasm of Oddi's sphincter are described: (1) After sounding of the duodenum by Einhorn's tube bile is found in the duodenum, the stools become coloured, and the icterus improves or disappears: (2) after excitement icterus may be present in spite of duodenal sounding; (3) icterus can be eliminated from the symptom-complex by duodenal drainage, and that alone. Less important but confirmatory signs are: (1) transitory difficulties in sounding the duodenum; (2) duodenal spasm shown radiologically; (3) exclusion of icterus from obstruction hæmolysis or hepatitis. On purely clinical grounds the diagnosis may be mooted if general health remains a little impaired in spite of chronic jaundice, if this waxes and wanes, or if the bilirubinæmia is comparatively slight. The inflammatory or other condition responsible for the reflex spasm of the sphincter of Oddi is difficult to detect. In one of Pavel's cases it was never defined, but yielded to intravenous injection of urotropine and sodium salicylate; in another, adenomatous nodules or hyperplastic glands of Brunner were found at necropsy; in a third inflammation of the common bile duct was present; and a fourth had pancreatitis. (Pavel speaks with reserve of the contention lately put forward that catarrhal jaundice is due to spasm of Oddi's sphincter). In treatment the Einhorn sound is useful palliatively, but surgery plays an important part; cholecystostomy has sometimes been successful, but the jaundice may recur when the fistula closes—so that cholecyst-duodenostomy with permanent drainage seems preferable.

Anterior Pituitary Hormone and Tumor Growth

Aschheim-Zondek tests were done by W. Saphir (*Endocrinology*, 18:191—196—1934) with fresh urine specimens, using infantile female mice of 6 to 8 grams, giving a dose of 3 c.c. of urine within 100 hours. Urine from 3 of 6 patients with benign tumors of the uterus or ovaries, when concentrated 1:5 with the alcohol precipitation method of Zondek, gave positive reactions of prolan A; no reaction was obtained when unconcentrated urine was used. The unconcentrated urine from 1 of 5 patients with malignant genital tumors gave a positive reaction for prolan A, and 2 more showed a similar reaction with concentration. In one case there was no evidence of hormone excretion, while urine from the fifth case, an adenocarcinoma of the ovaries, gave a positive reaction for prolan A and B when injected in the unconcentrated form. In nine cases of extra-genital tumors, no increase of excretion of anterior pituitary sex hormone could be demonstrated.

The question arises as to how the striking increase in the prolan excretion in patients with genital tumors can be explained. It seems evident that the increased prolan excretion cannot at present be considered as a general reaction to the presence of malignancy *per se*, but more probably as a reaction to malignant tumors involving certain tissues. The reason why tumors of the genital region particularly influence the prolan excretion may perhaps be found in the fact that, although the pituitary regulates the functional activity of the sex glands, the latter are also capable of influencing the former. For a long time it has been known that castration produced definite changes in the anterior pituitary. The increased prolan excretion may, then, be explained on the basis of a mutual relation between the anterior pituitary and sex glands.

Early Recognition and Treatment of Malignancy of the Skin

G. P. Lingenfelter and J V. Ambler (*Colorado Med.* 31:189-192, 1934) emphasize in this general survey the necessity of adequate treatment of the so-called precancerous lesions of the skin, the various types of keratoses, nevi, kraurosis vulva, leukoplakia, radiodermatitis, syphilis, xeroderma pigmentosum, ulcers, and lupus. The treatment may vary slightly with the individual lesion, and no one method should be adhered to too rigidly.

The same is to be said of true cancerous lesions. Thus basal-cell epithelioma usually reacts favourably to radio-therapy and this alone should suffice unless the involvement of underlying cartilage or bone necessitates the surgical removal of part of the diseased tissue. Squamous-cell epitheliomas, when small, may be satisfactorily treated in the same manner. In the more advanced lesions, especially those of the lip and oral cavity, radio-therapy has largely supplanted the radical dissections formerly employed. When surgery is to be used, electro-coagulation is to be preferred. Implantation of radium needles has proved efficacious in this group of lesions.

Paget's disease of the nipple requires complete and radical mastectomy and any attempt at radiation should not delay the operative procedure too long.

Melanomas are the most malignant of the cutaneous tumors. In early cases excision with a wide margin should suffice. Once metastasis has occurred, however, any attepmt at therapy will undoubtedly hasten the inevitably fatal result.

OBSTETRICS & GYNÆCOLOGY

Effect upon the Fœtal Heart of Cigarette Smoking During Pregnancy

Sontag and Wallace (*Amer. Journ. Obstet. and Gynecol.*, January, 1935, p. 77) base their inquiry upon the work of Tonn, who found nicotine in the milk of mothers whose infants showed evidence of nicotine poisoning. They take it as agreed that nicotine increases the heart rate in adults. Timing fœtal heart-beats in counts of ten, with two simultaneously they obtained records whose curves showed them to be statistically reliable. The average increases in fœtal heart-beats amounted to 5 per minute, showing that nicotine passes the placenta. As the difference in rates before and after smoking is more than twenty-five times the probable error of the difference, the effect of smoking is actual. The authors consider that evidence of injurious effects of smoking during pregnancy may be overlooked in the offspring.

Cardiac Conditions Indicating Therapeutic Abortion

H. E. B. Pardee (*Journ. Amer. Med. Assoc.*, December, 22nd, 1934, p. 1899) describes a classification of cardiac cases based on functional capacity, and describes its application to the problem of determining when a therapeutic abortion is necessary. In a patient whose ordinary activity is greatly limited because of the appearance of dyspnœa or palpitation, and who shows marked tachycardia and dyspnœa after a test exercise or is unable to complete it, failure to improve during the fifth to seventh months of pregnancy should be followed by the induction of labour. An exception may be made where the patient is anxious to have a child, is able to have expert cardiac supervision through the remainder of pregnancy, can co-operate with the physician as regards restriction of her activity, and is willing to be delivered by Cæsarean section before labour. When such a cardiac condition has appeared before the fourth month of pregnancy the case for therapeutic abortion is even more imperative, for still more marked cardiac insufficiency is likely in the later months, as also the danger of miscarriage. When patients are so limited in activity that they cannot walk about without dyspnœa or palpitation, they must be treated medically before a decision is made, and in no case should any operative procedure be contemplated. Patients with auricular fibrillation or with congenital cardiac malformation must be considered as running a graver risk than others in the same functional class. In the first instance, the pregnancy should only be allowed to continue while the heart rate can be kept approximately normal by digitalis and moderate exertion does not cause great and prolonged tachycardia. In the first three months, the induction of abortion through the vagina does not seem to disturb the circulation seriously, but when pregnancy has to be interrupted in the fifth, sixth, or seventh month, the heart will be less affected by an abdominal operation.

Hereditary Syphilis in the Etiology of Uterine Cervical Cancers

H. Paucot (*Bull. Soc. d'obst et de Gynèc*, 23:227—229, 1934) points out that while the prognosis of cervical cancer is better than it was some thirty years ago, little progress has been made in the direction of prophylaxis. He considers that while vaccines, tampons and similar palliative methods may suppress active infections of the mucosa, it is necessary to extirpate all chronically unhealthy or ulcerated cervical tissue, and the only certain method is to amputate the cervix or to destroy the diseased mucosa by cauterization. Personally he considers syphilis to be the most important single predisposing cause of cancer, though it would be a gross exaggeration to state that cancer is simply a manifestation of syphilis, as some writers have done. In a consecutive series of 14 cases he found 7 in which the patients were syphilitic; in one the syphilis was acquired, in one conjugal, and the remaining five showed evidence of congenital syphilis. In such cases vigorous antileutic treatment should be given, in addition to treating the local potentially precancerous cervical lesion by radium, electro-coagulation, or amputation.

Histogenesis and Classification of Cervico-Uterine Carcinomas

Using a Del Rio Hortega silver stain, Cl. Regaud, G. Gricouroff and E. Villela (*Bull. Assoc. franc, p. l'étude du cancer* 22:668-677, 1933) were able to demonstrate in the cervical epithelium of a number of examples of endo-cervical metaplasia evidence of early and imperfect fibril formation which escaped detection when the conventional stains were used. Below the layer of columnar glandular epithelium there was a narrow layer of rather small prismatic nuclei which, in the silver stain, were seen to be surrounded by fibrillæ. When this layer was better developed, the silver stain brought out the intercellular bridges or tonofibrils between the cells. These cells are therefore squamous and the authors suggest that they may originate by metaplasia from the overlying glandular epithelium.

These observations raise the question of the origin of squamous carcinoma of the cervix. The classical view was that the squamous epithelium of the os. ext. becoming malignant grew up into the cervix and replaced the glandular type. Such replacement may be observed in very early cervical squamous carcinomas where the neoplasm enters the cervical glands and replaces their cylindrical cell lining. But these new observations raise the question as to whether it is not possible that in some of the undifferentiated or mixed types the squamous portion of the tumor may not be derived from the epithelial islands described by Regaud lying below the cells of the mucous membranes.

The results of the application of these silver stains to carcinomas of the cervix, the cells of which with ordinary stains show no evidence of epidermoid characteristics, afford strong evidence that many of these are in reality epidermoid neoplasms in which the epidermoid character is imperfect or rudimentary. The same stages of development of intercellular fibrillæ which were observed in the metaplastic epithelium of the cervix were also seen in the tumors hitherto classified as undifferentiated carcinomas. In many of these tumors mucus-forming glandular epithelium was also encountered. For these the authors propose the terms ' mixed carcinomas." Six excellent drawings of the microscopic details are included.

RADIOLOGY AND ELECTROTHERAPEUTICS

Radiation Therapy of Cancer of the Skin

G. W. Grier (*Am. J. Röntgenol.* 32:206-210, 1934) presents the results obtained in the radiation treatment of 200 epitheliomas and 71 precancerous lesions of the skin. In the first group, there were 169 cures and 16 recurrences, while treatment failed to remove the lesion in 15 cases. Of the precancerous lesions, 67 were cured, none recurred, and 4 failed to disappear after therapy. From this study it is concluded that such lesions should be treated with massive doses of unfiltered röntgen radiation applied over a period sufficiently short that a single effect is produced. In general this should not exceed a week. The dosage found necessary to produce the greatest number of cures with the fewest recurrences is from eight to twelve times an erythema dose or from 4,500 to 8,000 r. The patient should be kept under close observation and the slough allowed to separate untouched. Complete healing takes place in six or eight weeks. In the majority of cases, this treatment is sufficient, but complicated cases, such as those involving cartilage or bone may necessitate supplementary treatment.

Carcinoma of the Lip: Results of Rœntgen and Radium Treatment

B. P. Widmann (*Am. J. Röntgenol.* 32:211-217, 1934) reports 168 cases of carcinoma of the lip treated with röntgen rays, radium and electro-desiccation at the Philadelphia General Hospital during the past ten years. One hundred and twenty-five, or 74 per cent., were primary cases without recognizable lymph node involvement at the time of the first examination. However, from the standpoint of surgical operability these were in no sense all early cases. For example, 39 tumors were infiltrating in character and measured in excess of 2 cm. in diameter. The average duration of these lesions before the first treatment was thirty-nine months. Of the 125 patients without node enlargement at the beginning of treatment, 78, or 62 per cent., are symptom-free for one to ten years; 47 patients are symptom-free for three years or more, These results are based on all cases without respect to size of the lesions; for those about 1 cm. in diameter the curability rate is thought to be greater than 90 per cent. With prophylactic irradiation of the lymph nodes of the neck, subsequent development of cervical node metastases occurred in 17 per cent. of 52 cases as compared with 51 per cent. of

72 cases in which uncontrollable cervical node metastases developed without prophylactic irridiation.

No uniformity of irradiation technique was adhered to in this series. Free and wide electrodesiccation in conjunction with radium or röntgen rays is favoured for the small lesions. Larger lesions should be given at least 5 skin erythema doses of irradiation to include a surface surrounding the lesion equal to the size of the lesion. The effects of different qualities of radium and röntgen rays have been observed to be equally good. Filtrations equivalent to 4 m.m. of lead are preferred because rays of shorter wave-length do not seem to produce the degree of atrophy that is theoretically more likely with softer qualities and doses equal to 5 skin erythemas.

Histologic study of biopsy specimens was available in only 78 of the 168 cases.

Radiation Treatment of Uterine Cancers

F. Voltz (*Strahlentherapie*, 51:453-464, 1934) reports 2340 cases of carcinoma of the uterus treated by irradiation in the University Woman's Clinic in Munich from 1913 to 1928 inclusive. Three hundred and ninety-five, or 19.4 per cent. of 2039 patients with carcinoma of the cervix remained well for five, or more years. According to the clinical grouping of these cases, five-year cures were obtained in 45.1 per cent. of 370 patients with Group I tumors, 24.1 per cent. of 489 patients with Group II tumors, and 12.9 per cent of 797 patients with Group III tumors.

Five-year cures were obtained in 56 of 138 patients with carcinoma of the body of the uterus treated exclusively by irradiation. This method of treatment is believed to give results which compare favourably with those obtained by other methods, while at the same time possessing the advantage of a 0.3 per cent. primary mortality compared to 10 per cent. associated with the radical surgical treatment.

Influence of Syphilis in the Treatment of Uterine Carcinoma by Radium

In a series of 20 patients with carcinoma of the cervix and 2 with carcinoma of the uterine body, all of whom were syphilitic, H. O. Kleine (*Strahlentherapie*, 49:415-421, 1934) found that the infection exerted a most unfavourable effect upon treatment by radium. Although 12 of the 22 neoplasms were judged operable only 4 patients were living after five years. The remainder had died either from recurring cancer of intercurrent complications such as recto-vaginal or vesico-vaginal fistula or bladder ulcer. This the author believes was due to an increased sensitivity of the normal tissues to radiation and may have been a result of the luetic infection itself, of the inflammatory changes produced by the cancer, or of the inflammatory reaction to the radium. It is emphasized that in the presence of syphilis, the dosage, time of treatment, filtration and other technical details must be adapted to each individual case. Fractional irradiation and intravenous arsenical therapy are advocated as a means of improving the results.

Results in the Radiation Treatment of Uterine Cancers

F. Voltz (*Strahlentherapie*, 50:576-578, 1934) reports that during the years 1927 and 1928, 336 patients with cancers of the uterine cervix were seen in the University. Woman's Clinic in Munich. Twenty or 5.9 per cent. of these patients had growths too advanced for treatment. At the end of five years 76, or 24 per cent. of the 316 patients treated were alive and well. Five-year cures were obtained in 26 of 44 patients with Grade I tumors, 28 of 88 patients with Grade II tumors, 22 of 125 patients with Grade III tumors, and none of 79 patients with Grade IV tumors.

The total number of cases of carcinoma of the cervix seen at the Clinic from 1913 to the end of 1928 is 2202. One hundred and sixty-three or 7.3 per cent. of these patients were unsuitable for treatment. Five year cures were obtained by irradiation in 395 or 19.4 per cent. of 2039 cases treated. The relative curability was 45.1 per cent. of the Group I tumors, 24.1 per cent. of the Group II tumors, and 12.9 per cent. of the Group III tumors.

Eleven of 31 patients with carcinoma of the body of the uterus treated entirely with irradiation during the years 1927—1928 have lived for five years or more. The entire group of patients with cancer of the uterine body treated by irradiation totals 138 cases; 56, or 40.6 per cent. of these, have remained alive and well for five years or more.

ASSOCIATION NOTES

BENGAL PROVINCIAL BRANCH

At a Special General Meeting of the members of the Indian Medical Association, Bengal Branch, held on Saturday, the 8th June, 1935, at 7-30 p.m., at the Association Hall, it was resolved to form a Provincial Branch of the Indian Medical Association for the province of Bengal. It was also resolved that the existing Executive Committee of the Calcutta Branch should temporarily function as the Provincial Council till the election of the first Provincial Council.

INDIAN MEDICAL ASSOCIATION

Calcutta Branch

Notice

I. Members of the *Indian Medical Association* residing within the province of Bengal are hereby informed that a Bengal Provincial Branch has been formed on 8th June, 1935, with functions to organise branches of the Association in Bengal.

II. It was, therefore, necessary to convert the previous Bengal Branch into Calcutta Branch of the Indian Medical Association.

III. The Calcutta Branch will enrol members from the city of Calcutta, neighbouring Municipalities and from neighbouring districts, if there are no branches of the Indian Medical Association already existing.

IV. Mofussil members from districts other than Howrah, 24-Pergs., Comilla and Darjeeling are hereby informed that they will be transferred to the Bengal Provincial Branch from October, 1935, when the new financial year begins.

Mofussil members from the above-named four districts who are at present members of the Calcutta Branch are also informed that their membership will be transferred to the respective branches, which have now been formed, from October, 1935.

The names and addresses of the secretaries of the respective branches are given below:—

1. Dr. Basanta Kumar Ghosh, M.B.,
Hony. Secretary,
Indian Medical Association,
Barrackpore Branch (24-Perg. Dist. Branch)
P.O. Ichapur-Nababganj, 24-Pergs.

2. Dr. Probodh Kumar Banerjee, L.M.S.,
Hony. Secretary,
Howrah Medical Society,
(Branch of the I. M. Association),
533, Grand Trunk Road, South,
Mallik Fatak, Howrah.

3. Dr. J. C. Deb Roy, B.SC., M.B.,
Hony. Secretary,
Indian Medical Association,
Comilla Branch, Kandripar,
Comilla.

4. Dr. A. C. Bose, M.B.,
Hony. Secretary,
Indian Medical Association,
Darjeeling District Branch,
Darjeeling.

V. Members of the Calcutta Branch are, therefore, requested to address all communications, cheques, etc., to the Secretary, Indian Medical Association, Calcutta Branch, (not Bengal Branch).

G. Mukherji,
Hony. Secretary,
Calcutta Branch.

INDIAN MEDICAL ASSOCIATION

Darjeeling District Branch

Proceedings of a meeting held at the office of the Victoria Hospital, Darjeeling, on Sunday, the 23rd June, 1935.

PRESENT.

1. Major T. H. Thomas, M.D., M.R.C.P. (Lond.), I.M.S., Civil Surgeon.
2. Dr. Ceri Jones, M.A., L.R.C.P., M.R.C.S. (Lond.), S.M.O., (D.D.M.A.).
3. Dr. S. K. Pal, L.M.S., Supdt., Lewis Jubilee Sanitarium.
4. Dr. S. M. Das (Retd. Assistant Surgeon).
5. Dr. K. D. Biswas, M.B., M.O., I/C. Planters' Club.
6. Dr. K. P. Bhattacharjee, M.B., D.P.H., District Health Officer.

7. Dr. Yen Singh, M.O., I/C. Victoria Hospital.
8. Dr. K. L. Pal, M.O., I/C. Victoria Hospital.
9. Dr. K. P. Singh Roy, R.M.O., Eden Sanitarium and Hospital.
10. Dr. A. C. Bose, M.B., M.O., I/C. Municipal Clinical Laboratory and Infectious Diseases—Hospital, Darjeeling.

The Civil Surgeon presided at the meeting.

1. The following office-bearers were elected:—

Civil Surgeon as President
Proposed by Dr. Ceri Jones and seconded by Dr. S. M. Das

Dr. Ceri Jones as Vice-President
Proposed by Dr. S. K. Pal and seconded by Dr. K. P. Singh Roy

Dr. A. C. Bose as Honorary Secretary
Proposed by Dr. Ceri Jones and seconded by Dr. S. M. Das.

The above proposals were carried unanimously.

2. Resolved that a local Darjeeling District Branch of the Indian Medical Association be formed with headquarters at Darjeeling.

3. Resolved that a meeting of the District Branch be held once every quarter.

4. Resolved that in addition to Rs. 3 per annum being the subscription of the provincial branch of the Indian Medical Association, Re. 1 per annum be levied on each member for the District Branch; and that the subscriptions be paid to the Hony. Secretary who will forward the share of the provincial branch to the Headquarters of that branch.

5. Resolved that articles to be contributed to the Journal should be sent to the Hony. Secretary, Provincial Branch, for publication.

6. Resolved that copies of the rules of the Indian Medical Association (Provincial Branch) with application forms be sent to all qualified medical practitioners of the district of Darjeeling, requesting them to join the Association.

7. Resolved that clinical demonstrations be arranged for at every quarterly meeting of the District Branch.

8. Resolved that the meeting of the District Branch of the Indian Medical Association shall ordinarily be held at the office-room of the Victoria Hospital, Darjeeling.

9. Resolved that the first meeting be held on the 11th August, 1935, at 3-30 p.m. when the Civil Surgeon will read a paper.

10. Resolved that the copies of the resolutions of this meeting be circulated to all members of the District Branch.

With a vote of thanks to the Chair the meeting was dissolved.

(Sd.) T. H. THOMAS,
Major, I. M. S.,
President.

HOWRAH MEDICAL SOCIETY

Howrah Branch—Indian Medical Association

At a meeting of members of the Society held on 4th April, 1935, at the Duke Public Library, Dr. Jibananda Mukerji proposed, " That the Society be made a branch of the Indian Medical Association."

Dr. M. Ali seconded and Dr. Baidyanath Banerji supported the motion.

The motion was carried unanimously.

The following office-bearers were then elected:—

Dr. S. C. Dutt—*President.*

Dr. P. K. Banerji—*Secretary.*

Dr. Jibananda Mukerji, Dr. B. B. Palui, } *Asstt. Secretaries:*

Members of the Executive Committee:—

Dr. M. Ali,
Dr. T. P. Chatterji,
Dr. Satya Charan Chatterji,
Dr. Sures Chandra Das,
Dr. Nonilal Ghosh,
Dr. T. D. Chatterji,
Dr. N. Shingha,
Dr. A. T. Bose,
Dr. Pannalal Ghosh,
Dr. Sudhir Sarkar,
Dr. Baidyanath Banerji.

After a vote of thanks to Dr. K. S. Ray for his very interesting lecture on " The Surgical Treatment of Pulmonary Tuberculosis " with film demonstration the meeting dissolved.

(Sd.) P. K. Banerji,
Hony. Secretary.

INDIAN MEDICAL ASSOCIATION

Delhi Branch

Annual Report of the Indian Medical Association, Delhi Branch, for the year ending 31st December, 1934.

On behalf of the Executive Committee I have much pleasure in submitting the report for the financial year ending 31st Dec., 1934.

The Branch having come into being on the 11th July, 1932, with eleven members has now a total membership of 42 on its roll. Total membership at the last financial year was 34. Names of the Executive Committee members are as follows:—

1. Dr. I. T. Mitra, L.M. & S., *President.*
2. Dr. G. N. Khanna, M.B., *Hony. Secretary, and Treasurer.*

Members.

3. Dr. J. K. Sen, L.M. & S.
4. A. Roy Chowdhury, B.SC., M.B.
5. Dr. Mool Singh Bazaz, M.B., B.S.

Dr. S. C. Sen was elected to represent the Branch on the Central Council of I. M. A. Calcutta.

During the year 8 ordinary meetings, one Executive Committee meeting and one Annual Meeting were held. Financial position of the branch is quite sound as is evident from the statement of account although a large sum of Rs. 262/- is due from the members on account of arrears. Membership would have increased further if the Punjab Government had removed the ban on Government servants against joining the Association.

The remarkable feature of the year was the organisation of the XI All-India Medical Conference which was held on 26th, 27th, 28th and 29th December, 1934. In January 1934, Dr. S. C. Sen and Dr. G. N. Khanna were provisionally elected by the Delhi Branch as the organising Secretaries. In July 1934, a small Sub-committee was elected to enlist members of the Reception Committee and later on the Executive of this Branch with the two Organising Secretaries was authorised to work as a provisional Working Committee to do the spade work with powers to coopt more members. After having enlisted forty-two members, the first meeting of the Reception Committee was held on the 4th October, 1934 and all the office-bearers and seven Working Committees were duly elected. A detailed report of the Conference has been published in the April, 1935, issue of the Journal of I.M.A. A sum of Rs. 713/15/- and a Portable Typewriter (valued Rs. 72/-) have been received by the Branch as her share of the Savings of the XI All-India Medical Conference. (vide Clause 28 (c) of the Indian Medical Association).

Besides the Annual Conference our scientific activities, I must admit, have been nil. I would like to draw the attention of the members to this very important factor. I may suggest that a combined efforts should be made to arrange for some lectures and demonstrations to which even non-members be invited if approved by the members. The Branch will thus attract more members and will be doing full justice to the cause.

Before concluding, on behalf of the Executive Committee, I heartily thank all the members as well as other members of the profession of Delhi for their keen co-operation to make the Conference at Delhi a success and for their help in increasing the popularity of the Delhi Branch. Last but not the least, I am also grateful to the President and members of the Delhi Medical Association for allowing us the free use of their buildings and the services of their staff. I sincerely hope and wish they will continue favouring us with the privilege in future or better still get themselves absorbed into the Branch before the close of the current year.

Sd/- G. N. Khanna, M.B., B.S.,
Capt. Ex-I.M.S.
Honorary Secretary.

Proceedings of the Annual General Meeting of the Indian Medical Association, Delhi Branch held on the 18th May, 1935, at the Delhi Medical Association House, Daryaganj, Delhi.

The Annual General Meeting of the Indian Medical Association, Delhi Branch was held on Saturday, the 18th May, 1935, at 7 a.m. at the D.M.A. House, Daryaganj, Delhi. Dr. I. T. Mitra, the President being indisposed Dr. J. K. Sen was proposed and unanimously voted to the Chair. Ten members and a guest were present.

1. The Annual Report for the year ending 31st December, 1934, appended overleaf, was read by the Secretary, and resolved that it be adopted.

2. The annual statement of account up to December, 1934, was read by the Secretary and resolved that the statement be adopted.

3. In a short speech the Chairman made a reference to Dr. I. T. Mitra's prolonged illness appreciating his services to the profession and keen co-operation at the XI All-India Conference in spite of his failing health.

Dr. G. N. KHANNA was proposed by Dr. S. C. SEN and seconded by Dr. A. ROY CHOWDHURY and unanimously elected as the Honorary Secretary and Treasurer for the year.

It was proposed by DR. S. C. SEN and unanimously adopted that a letter be addressed to Dr. I. T. Mitra sympathising with him in his present illness and appreciating his services to the Branch and the profession of Delhi.

4. The house then took up the election of members of the Executive Committee.

DR. J. K. SEN was proposed by DR. MOOL SINGH BAZAZ and seconded by Dr. RAGHBIR CHAND and unanimously elected as the President for the next year.

It was then unanimously decided to elect seven members of the Executive Committee, Dr. P. N. SEN having withdrawn his proposal of having 5 members.

The following were then duly proposed, seconded and unanimously elected as members of the Executive Committee for the year:

1. Dr. Mrs. C. Solomon, B.A., B.T., M.B.,
2. ,, Mool Singh Bazaz, M.B., B.S.
3. ,, A. Roy Chowdhury, B.SC., M.B.
4. ,, Raghubir Chand, M.B., B.S.
5. ,, S. N. Mitter, M.B., D.O.M.S.
6. ,, P. N. Sen, B.SC., M.B.
7. ,, S. C. Sen, M.B., D.M.R.E.

DR. MRS. C. SOLOMON was elected as the representative of the Branch to the Central Council.

5. Resolved that the financial year of the Branch should also close on the 30th September like the financial year of the Central Council.

6. Read the letter from the Honorary Secretary, D.M.A., dated the 15th May, 1935, regarding a fee of Rs. 5/- to be charged per meeting of the Branch or Rs. 60/- per year. It is decided that this Branch agree to pay Rs. 5/- per meeting of the I.M.A., Delhi Branch in future.

Further resolved that the Secretary of the I.M.A., Delhi Branch, be authorised to negotiate with the D.M.A. in respect of making a lump sum contribution towards their Library fund.

With a vote of thanks to the Chair the meeting dissolved.

Sd/- G. N. KHANNA,
Honorary Secretary

INDIAN MEDICAL ASSOCIATION

Bombay Branch

A meeting of the members of the Bombay Branch of the Indian Medical Association was held at 7-30 p.m. on Monday, the 6th May, 1935, at the rooms of the Bombay Medical Union when the following members were present:

Dr. Jivraj N. Mehta.
Dr. M. B. Thakore.
Dr. U. B. Narayanrao.
Dr. N. J. Modi.
Dr. R. Tavargiri.
Dr. K. K. Dadachandji.
Dr. S. S. Rau.
Rai Bahadur Dr. J. P. Modi.

On commencing the work at 7-40 p.m. Dr. JIVRAJ MEHTA proposed and DR. THAKORE seconded that Dr. DADACHANDJI be elected the chairman of the meeting.

Carried unanimously.

DR. THAKORE proposed and DR. C. N. MEHTA seconded that the Executive Committee of the Bombay Branch be constituted for the year 1935-36.

Carried unanimously.

3. DR. NARAYANRAO proposed and DR. N. J. MODI seconded that the Executive Committee should consist of:—

(a) President.
(b) Two Vice-Presidents.
(c) Treasurer.
(d) Two Secretaries.
(e) Eight members.

Carried unanimously.

4. DR. THAKORE proposed and DR. NARAYANRAO seconded that DR. JIVRAJ MEHTA be elected President for the year.

Carried unanimously.

(b) Dr. Jivraj Mehta proposed and Dr. Tavargiri seconded that Dr. D. D. Sathaye and Dr. K. K. Dadachandji be elected Vice-Presidents for the year.

Carried unanimously.

(c) Dr. Thakore proposed and Dr. S. S. Rau seconded that Dr. Chamanlal Mehta and Dr. F. N. Tarapore be elected Honorary Secretaries.

Elected unanimously.

(d) Dr. Jivraj Mehta proposed and Dr. N. J. Modi seconded that Dr. K. K. Dadachandji be elected Honorary Treasurer.

Elected unanimously.

(e) Dr. Jivraj proposed and Dr. Tavargiri seconded that the following be the elected members of the Committee:—

Dr. Deshmukh.
Dr. Erulkar.
Dr. P. T. Patel.
Dr. Narayanrao.
Dr. Coelho.
Dr. S. S. Rau.
Dr. M. D. Joshi.
Dr. M. B. Thakore.

Elected unanimously.

5. It was resolved that the retiring Secretaries and Treasurer of the Bombay Branch of the I.M. Association be requested to hand over to the newly elected Secretaries and Treasurer all the records and funds together with the accounts up to date.

Moved from the Chair.
Carried unanimously.

6. A vote of thanks to the Chair proposed by Dr. N. J. Modi and seconded by Dr. Rau was carried.

The meeting terminated at 8-30 p.m.

INDIAN MEDICAL ASSOCIATION

Motihari Branch

Proceedings of a meeting of the Motihari Branch of the Indian Medical Association held on the 11th May, 1935.

Present:—

Rai Bahadur Dr. T. C. Guha.
Dr. A. K. Guha.
Dr. R. L. Banerjee.
Dr. Narayan Prasad.
Dr. Saryu Prasad.
Dr. P. K. Roy.
Dr. N. C. Sarkar.
Dr. H. S. Prasad.
Dr. S. K. Verma.
Dr. A. Muhammad.
Rai Bahadur Dr. Thakur Ram Dhari Sinha.

1. Read letter of Dr. K. Bagchi, dated the...'35. The rate of annual subscription was unanimously fixed at Rs. 4/- for the present out of which Rs. 3/- to be sent to the Central Council and Re. 1/- to be retained for contingent charges.

2. Dr. A. K. Guha, M.B., M.R.C.S., read a very interesting paper on the mode of development of red blood cells and the light it throws on the ætiology and treatment of all anæmias, followed by interesting discussions on the subject.

Proceedings of a meeting of the Medical Profession of the Motihari Town and the interior of Champaran held on the 23rd April, 1935, at the Bungalow of Rai Bahadur Dr. T. C. Guha, retired Civil Surgeon.

Present

1. Col. Bhola Nauth, C.I.E., I.M.S. (Retd.),
2. Rai Bahadur Dr. T. C. Basu, C.S. (Retd.),
3. Rai Bahadur Dr. Thakur Ramdhari Sinha, L.M.P.
4. Dr. Nalin Chandra Sarkar, M.B.,
5. Dr. P. K. Roy, M.B., D.P.H.,
6. Dr. Hari Shankar Prasad, M.B., B.S.,
7. Dr. Narayan Prasad, M.B.,
8. Dr. Yasin Khan, L.M.P.,
9. Dr. Rajib Lochan Banerjee, M.B., B.S.,
10. Dr. A. K. Guha, M.B., M.R.C.S.,
11. Dr. Haran Chandra Lahiri, L.M.F.,
12. Dr. Ramesh Chandra Roy, M.B.,
13. Dr. Saryu Prasad, L.M.P.,
14. Dr. Kanti Bhusan Banerjee, L.M.P.

Col. Bhola Nauth, I.M.S. (*Retd.*) President of the Indian Medical Association explained the aims and objects of the Indian Medical Association. Dr. Rajib Lochan Banerjee, M.B., B.S., proposed that a District Branch of the Indian Medical Association be formed and it was seconded by Rai Bahadur Dr. Thakur Ram Dhari Sinha, L.M.P., and carried unanimously.

Dr. P. K. Roy, M.B., D.P.H., proposed that Rai Bahadur Dr. T. C. Guha be elected President of

the District Branch of the Association and it was seconded by Dr. Ramesh Chandra Roy, M.B., and carried unanimously.

Dr. Nalin Chandra Sarkar, M.B., proposed that Dr. Hari Shankar Prasad, M.B., B.S., be elected Secretary of the District Branch and it was seconded by Dr. Saryu Prasad, L.M.P., and carried unanimously.

It was further resolved that Dr. Rajib Lochan Banerji be elected Assistant Secretary.

The meeting terminated with thanks to Col. Bhola Nauth.

INDIAN MEDICAL ASSOCIATION

Bedaun Branch

Proceedings of the First Meeting of Bedaun Branch of Indian Medical Association.

(1) Dr. B. C. Pant, President, and attended by (2) Dr. B. B. Saxena (M.O., i/c., Sadar Hospital), (3) Dr. G. B. Kahaji, Lady Doctor, (4) Dr. Hidayat-Ullah, (5) Dr. Sajjad Hussain Khan, (6) Dr. L. S. Bhatnagar, (7) Dr. Awadh Behari Lal, and (8) Dr. Janab Ahmad Khan.

At a meeting of the medical men and women of Budaun, presided over by Dr. B. C. Pant., Civil Surgeon, Budaun, it was resolved that a local Branch of the Indian Medical Association be started (proposed by Dr. Janab Ahmad Khan and seconded by Dr. B. C. Pant).

The following office-bearers were elected for the half-year ending 31st December, 1935.

President—Dr. B. C. Pant.
Vice-President—Dr. B. B. Saxena.
Secretary—Dr. Janab Ahmad Khan.
Jt. Secretary—Dr. Sajjad Hussain Khan.

" Resolved that for the present the Secretary of the Association be Treasurer as well."

Sd/- Capt. R. N. Bose, M.B.,
Joint Secretary,
U. P. Provincial Branch.

Copy of a Resolution of the Working Committee of Indian Medical Association, U. P. Provincial Branch, regarding the 2nd U. P. Medical Conference to be held on 12th and 13th October, 1935.

" The following telegram from the Honorary Secretary, Cawnpore Branch of I.M.A., inviting the 2nd U. P. Medical Conference was read:—

" Cawnpore Branch inviting Conference 12th and 13th October——Misra, Secy."

" Resolved that this Committee accepts the invitation from the Cawnpore Branch with thanks."

Sd/- Capt. R. N. Bose, M.B.,
Hony. Jt. Secretary.

QUETTA RELIEF WORK

The unfortunate catastrophe that befell Quetta has elicited praiseworthy succour from various individuals and organisations. A most welcome opportunity to serve was afforded to us when we were requested to render aid to the refugees who were pouring into Amritsar. Over twenty-two members of the Amritsar Branch of the Indian Medical Association were enlisted for work and more were ready to come forward, only there was no need to bother them The doctors were divided in different batches and from 6 in the morning to 1 at night one batch or the other was there on the Railway Station inspecting every incoming train (about fifteen of them) and doing the needful for the injured and the destitute. The Quetta Quake Sufferers' Relief Sabha in conjunction with which we worked handled over 1300 refugees in all, the greatest pressure being on the first three or four days. The work was continued up to the 18th June, by which time any prospects of receiving the more serious of the cases had had gone as all of them were absorbed at Lahore. In anticipation of the need for accommodation in the hospitals of serious cases, arrangements had been made, but the need did not arise and further attendance at the Railway Station on our part was discontinued.

Though there is no occasion to thank the members participating in this work, as they only did their duty at the time of need, yet it is only proper to commend the spirit that prompted their undertaking this task in spite of inconvenience to themselves and disturbance of practice.

Ballin Singh,
Secretary, Indian Medical Association,
Dhale Khatikan, Amritsar Branch.
Amritsar.

MEDICAL ASSOCIATIONS, SOCIETIES ETC.

Medical Societies, Associations, Unions, etc., are invited to make use of this section of the Journal. — EDITOR.

BOMBAY MEDICAL UNION

In the course of an address at the Annual Meeting of the Union, held on Sunday, the 17th February, 1935, Dr. A. S. ERULKAR, the retiring President said:

" I should like to refer to some of the problems that face us—local as well as all-India problems. As far as the local problems are concerned, one of them that we did touch upon during the last year, was the question of charitable hospitals in Bombay. This will come up again before the Medical Union in the ensuing year. During the last few years we have witnessed the starting of more hospitals in Bombay and we have had complaints from many people,— I think it is almost a universal complaint in the medical profession of Bombay,—that these hospitals are misused in the matter of service and help and requisitions obtained by people, who could afford to pay. I should like to make it perfectly clear that the medical profession—a noble profession that it is—is always willing and is bound to give help to those who are poor and needy. But it is against the ethics, and I should say that it is morally wrong also, for any member of the medical profession to give his service entirely free to an institution, which renders help without any charge to people who can afford to pay, because, in doing so, you are depriving your own fellow practitioners of their legitimate dues and you are, therefore, creating poverty in the profession itself. It is also the tradition of the medical profession that you shall not be associated with an institution, which charges rates and also expects the medical profession to give their services free. We can only give our services entirely free to those institutions where the poor and needy come. If the rich people come, then the rich people will have to be made to pay and they must also pay the members of the staff for their services to the institution. Our services, in short, are, should be and shall be always free to those that are poor and needy, but, as far as the richer classes are concerned, our services cannot be, and should not be, free. Now this problem has arisen in Bombay, as I said, since the expansion of medical help, and I can say honestly from my personal knowledge, being attached to one of the hospitals in Bombay, that there is a certain amount of truth in this charge, that these hospitals are utilised by people who are in a position to pay. I hope, therefore, that this local problem will be taken up by the Managing Committee of the Bombay Medical Union in the ensuing year and the proper authorities will be brought to see that this matter is put on proper lines, *viz.* that our services shall be utilised only for the poor and needy and that the rich shall not be allowed to take an advantage of our nobility and take advantage of the medical help that is given free in these institutions.

I should now like to draw your attention to some other problems that interest us—problems of all-India interest to the whole medical profession of India. There are many indeed, but I should like to touch on a few only. The Government of India appointed some years ago a Committee to take evidence all over the country and to draw up recommendations regarding the question of the adulteration of drugs. The Committee submitted its report, but we have heard nothing about it since then. The Government have taken no steps whatsoever to remedy this terrible practice of adulteration of drugs. We feel it is both in the interests of the people themselves and also of medical science that there should be very strict laws in this country to the effect that drugs shall not be adulterated. It is not fair to science and it is not fair to humanity. One of the worst things that a merchant can do is to adulterate drugs and I know of countries, where no punishment is given to these people short of punishment by imprisonment. I know of countries where the offenders in this direction are not given even the option of a fine. The only punishment given to such people is that of sending them to prison. But in our country there is no law at present to see that drugs are not adulterated.

The other points that concern us as members of the medical profession in this country, are more or less administrative questions. It is very unfortunate that the civil side of the Indian Medical Service has not been abolished yet and it is still further unfortunate that it is proposed to keep up the civil side of the Indian Medical Service. The Union and the independent medical profession have again and again protested against this rule of keeping the civil branch of the Indian Medical Service. Our idea is that the Civil Medical Service should be recruited by the Public Services Commission and they will have nothing to do with the Indian Medical Service. Looking to the Government of India Bill, which is now before the House of Commons, I should like to draw your attention to a few glaring things, as far as the matters concern us. You will remember that the Government of India, by an Act of 1933, created the Indian Medical Council and at that time Sir FAZLI HUSSAIN boasted that the object of the Indian Medical Council was to have "efficiency at home and honour abroad." We welcomed that statement most enthusiastically. The Indian Medical Council was created. There are many deficiencies in it. I will not go into that question just now, but what do we find? In the Government of India Bill before the British Government at present, the provisions are such that the Indian Medical Council has no reciprocity whatsoever. The suggestion that they have put forward amounts to this; that, if there is any dispute between the General Medical Council of Great Britain and Ireland and the Indian Medical Council, the right of appeal shall lie with the Privy Council in England. The provision in the Government of India Act of 1933 was that, if there was any difference of opinion as to reciprocity between the British Medical Council and the Indian Medical Council then the right of appeal should lie with the Governor-General in Council, but it is now proposed in the Government of India Bill that the right of appeal shall not lie with the Governor-General in Council. In other words, it shall not lie here, but the right of appeal shall lie with the Privy Council. That, to my mind, is not only insulting to the Government of India—and I hope they will look after their prestige,—but it is also insulting to the Indian medical profession. I do not see any reason why the right of appeal should lie with the Privy Council. I believe it was argued in the Joint Parliamentary Report that the Privy Council would have expert advice. It comes to this then, that the Government of India, or rather, the Governor-General in Council, have no expert adviser. The Privy Council of Great Britain has no more opportunities for expert advice than the Governor-General in Council has opportunities for expert advice. Indeed, it is definitely laid down in the Medical Council Act of India of 1933 that the Governor-General in Council shall consult the Indian Medical Council with regard to the question of reciprocity and of allowing certain qualifications to enable entry in our Register. I, therefore, protest very strongly against this shifting of the right of appeal from the Governor-General in Council in India to the Privy Council in England. That, to my mind, is both an affront and an insult not only to the Government of India, but also to the Indian medical profession and to the Indian Medical Council, as if they are not fit enough to give advice to the Governor-General in Council. The real truth is that they are afraid that the Governor-General in Council in India will be more under the influence, or will come under the influence, of the Indian medical profession and, therefore, they would like to shift this right of appeal from India to England. That, I think, is a very retrograde step and the medical profession ought to protest very strongly about this.

The second provision in the Government of India Bill that I should like to draw your attention to, is the clause 120 of the Government of India Bill, which lays down that members of the Indian Medical Service and members of the Royal Army Medical Corps and all members of the Military Services in India shall be allowed to practise in India, irrespective of the recognition of the Medical Council of India, *i.e.*, simply because a man happens to be in the Indian Medical Service or the Royal Army Medical Corps, he can practise in any part of India. That, I think, is another insult both to the Government of India and to the Indian Medical Council and also an insult to the medical profession. That, I think, is also one of the things that ought to be taken up by the Bombay Medical Union in the ensuing year and we should protest aginst the various clauses of the Government of India Bill which, in our opinion, are extremely reactionary and insulting to the independent medical profession. These clauses of the Government of India Bill make the Indian Medical Council absolutely a farce. I do not see what is the use of the Indian Medical Council if these clauses are to be inserted in the Bill. The Indian Medical Council might as well be dissolved, because in another

year or so we shall have attained the minimum standard throughout the country and after that I do not see what power the Indian Medical Council can have if the right of appeal lies with the Privy Council and if the members of the Military Services can practise in spite of the Indian Medical Council. I should like to ask Sir FAZLI HUSSAIN what becomes of his "honour abroad," if the right of appeal lies outside this country and not here? In this connection I should also like to make a suggestion that, now that the Indian Medical Council is on the eve of fulfilling its first object, *i.e.*, the attainment of a minimum standard of education in this country, I think it would be right if a new amendment to the Indian Medical Council Act is brought in by the Government, and the Indian Medical Council is given powers of having an All-India Medical Register and also empowered to see that discipline is kept up in the profession throughout the country. That also would solve the question of bogus degrees. This question will again come before us. The only solution is that the All-India Medical Council should have power to regulate medical practice in this country. This then is one of the problems that faces us not only in this town, but also the whole of India."

The New President, Dr. J. E. SPENCER, then addressed as follows:—

* * * *

Present Condition of Medical Practice and Future Prospects:—I shall now deal with the present condition of medical practice. To say the least it is deplorable. The causes for such a plight are many. To my mind, the chief cause is a greater supply than demand; and this is evident from the number of graduates manufactured every year by our University, So long as there was only one unit, *viz.*, University, the supply was within bounds. But when various licensing bodies came into existence in different provinces the picture became changed. I ask the question whether there is really any necessity to establish so many different bodies which dole out diplomas and degrees to prospective students. Why should there be set up different standards and requirements for a science like ours of medicine? This causes invidious distinction between students who are going to follow the same avocation and whose aim in life is amelioration of the suffering of the poor and the necessitous. Why should the public be treated and attended upon by persons who have gone through different standards of medical education? It will be in the fitness of things if the authorities concerned will give their thought to this important question and settle the standard of medical education and requirements on one basis only. It was put forward as an argument when the licensing bodies came into existence that the needs of the poor in distant parts of the land were not met and people had no medical aid. But the practical results after so many years do not bear out that argument. On the contrary there has been overcrowding in big cities and towns and the villages and mofussil centres are left in the same condition as they were before.

The second important cause is, to my mind, the present-day hospital policy. Hospitals are truly meant for the indigenous poor and the necessitous. But do they really get the benefit that is their due? I am not a bit exaggerating when I say that those who are able to pay for medical treatment and who used to pay do take advantage of charity and they are not ashamed to deprive the poor of his proper dues. But greater still, members of the honorary staff attached to such hospitals are made to attend upon these people by the rules of the hospital. I consider this state of affairs very deplorable.

Those gentlemen who are giving their honorary services do so or should do so only for the necessitous poor and not to persons who have no sense of self-respect. This position has been brought before the Union but no tangible result has been arrived at and in the future we shall be compelled by force of circumstances to weigh it from all points. *The profession to-day is run more on commercial lines* and if this is to be the trend of the future then I believe it will not be out of groove to run it on trade-union lines. Then we shall be in a position to lay down concrete rules and guides for our requirements and will see that the cut-throat policy now adopted unfortunately by many of us will have a great check put upon it.

Further, to make matters worse we have *an invasion of foreign doctors*. We can't blame them because it is the misfortune of our country that she does not possess any set rules whereby such infringement on the rights of our own people and the sons of the soil can at once be put a stop to. If the authorities concerned desire to move in the matter and protect the profession—which it is its right to be so protected, then ways and means can be found.

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THE FIFTH ANDHRA MEDICAL CONFERENCE

Vizagapatam

The fifth session of the Andhra Medical Conference was held at Vizagapatam on the 7th, 8th and 9th of June, 1935.

The Conference was opened by Mr. B. VENKATAPATHI RAJU, B.A., B.L., C.I.E., who took the opportunity to refer to the step-motherly treatment given by the Madras Government to the Vizag Medical College and hoped that the Government would soon afford better facilities to medical students at Vizag and effect the improvements urgently required by the Medical College and Hospital.

He urged the Conference to extend its sympathy to all systems of medicines. Long before there was any scientific knowledge in Europe, India had perfected a system of medicine called Ayurveda. In conclusion, he opined that the day would soon dawn when Allopathic men would devote all their time to investigate and bring to light the many hidden truths that now lie buried in Ayurveda.

In the unavoidable absence of Dr. MOONJEE, Dr. B. T. RAU was requested to take the presidential chair. He then delivered a stimulating and learned address touching practically on every one of the major issues that confront the medical profession in the Andhradesa.

Dr. A. LAKSHMIPATHI of Madras opened the Pharmaceutical Exhibition. He referred to the great mineral and vegetable wealth of India. Drugs abundantly found here are being exported to Europe for refinement. These finished products return to India in a new garb and are sold at a very heavy price. Incidentally, he would also mention that the drug was the least important thing in treatment and that the medical profession would soon realise the value of drugless treatment.

The delegates and the visitors after going round the exhibition adjourned to the King George Hospital, where Dr. B. TIRUMALRAU entertained them at tea.

The Scientific section then opened its proceedings under the presidentship of Dr. TIRUMALRAU and a number of medical lectures were delivered for the benefit of the doctors that gathered.

Dr. TRASI, Professor of Obstetrics, Vizag Medical College, read a paper on ' post-partum hæmorrhage.' He referred to the percentage of incidence in various countries, emphasized the importance of anti-natal prophylaxis and discussed the comparative merits and demerits of the various methods advocated by different authorities. He gave in detail the technic of a method, which in his experience was the most satisfactory one to arrest post-partum hæmorrhage.

Dr. DINKER RAO (Professor of Medicine, Medical College, Vizag), next lectured on ' Hypertension.' He gave a comprehensive list of the current theories of causation and emphasised the clinical and biochemical investigations which would help the doctor in diagnosing this disease from apparently similar conditions and drew attention to clinical features which were important in prognosis.

The next day, the delegates after visiting the Andhra University and the Mental Hospital, Waltair, again assembled in the Pathology Block to hear and observe the lecture demonstrations.

In the absence of Dr. B. T. RAU, Dr. T. S. TIRUMURTI took the chair during the morning session.

Dr. P. RAMACHANDRARAO (Assistant Professor of Pathology, V. M. C.) showed a large collection of post-mortem specimens and slides collected from atypical fatal cases of malaria and discussed in detail the microscopic changes noted in these cases.

Dr. KINI (Surgeon, K. G. Hospital) gave a lecture demonstration on ' some surgical aspects of hip-joint disease ' showing cases, photos and X-ray films, illustrating the condition and functional capacity before and after certain operations.

Dr. R. VISWANADHAN (Lecturer in Tuberculosis) next dealt with ' bronchiectasis ' illustrating his lecture with case records and radiograms.

Dr. Ch. S. JOHN (of Nidadhavole) who followed next read an interesting paper on ' sterilisation in men.'

The Conference assembled in the Town Hall in the afternoon with Dr. B. T. Rao in the chair when Dr. P. Kutumbiah (Physician K. G. Hospital, Vizag.) gave a clinical lecture on ' neuro-syphilis.' He referred to the incidence, classification and clinical diagnosis of the disease and read out case reports illustrating different types of neuro-syphilis.

Dr. Abbu Mudaliar, Professor of Ophthalmology, Medical College, Vizag, next read a learned paper on ' The recent advances in the diagnosis and treatment of trachoma.'

Dr. A. Lakshmipathi (Madras) next read an interesting paper on the ' Therapeutics of Indian Medicines.'' He prefaced by giving a brief statement on the Tridhatu theory, which formed the foundation of Ayurveda. Disturbed conditions of three-dhatus known as Tridoshas were reduced to normal by giving drugs having opposite qualities. As an instance of the valuable, though somewhat out-of-date methods, he discussed the therapeutics of the eight urines (Ashta-mutras), viz., those of the buffalo, goat, sheep, cow, horse, camel, elephant and ass. He dealt with the various uses to which these urines could be put and instanced number of cases, where one or other of the eight urines had been used with considerable success.

Dr. N. T. S. Yazulu (Vizianagram) who followed, read a paper on ' Indigenous drugs ' and made some suggestions for the improvement of indigenous pharmaceuticals.

After the visit to the harbour and King George Hospital, the Scientific Section resumed its proceedings yesterday with a lecture demonstration by Dr. Kesavaswami on ' Interpretation of X-ray films.' This was followed up by a cinema film taken in the King George Hospital showing the characteristic gaits in different nervous diseases. Another interesting series of films on ' Hormones ' were shown by Bayer & Co. The first paper for the day was by Dr. G. V. Subbarao of Tenali on ' The village call ' narrating his experiences when summoned to see emergent cases. The next paper related to physiological problem concerning the human parotid saliva. Mr. T. S. Ramachandran read out the results of a bio-chemical assay of different kinds of saliva, while Dr. Baseer described the results of inoculating animals with saliva. He seemed to suggest a relation between some as yet unidentified hormone or substance in the saliva and the gonads. Dr. Trasi made a few comments from the point of view of a gynæcologist, while Dr. Krishna Rao offered some criticism as a morphologist.

The next paper by Dr. Seshacharyulu, which dealt with ' The human heart in action ' suggested a few lines of investigation to study what he called the dynamic physiology and pleaded for greater attention to human machinery than to rats and rabbits.

The scientific section closed with a paper by Dr. Govinda Nair on ' the new treatment for small-pox ' wherein he gave his experiences with the liver extract, which injections, if given sufficiently early, appeared to reduce the amount of pustulation and scarring in the latter stages.

About ten papers from various parts of India by specialists in their line had to be taken as read for want of time. Among them were three papers from the Indian Institute of Medical Research, Calcutta, one from Dr. Naidu of Haffkine Institute, one from Dr. Sundararao of Calcutta School of Tropical Medicine, who kindly responded to the invitation of the Scientific Section.

The Medical Conference passed the following resolutions:—

" The Andhra Medical Conference has heard with deep sorrow the great calamity that has befallen the people of Quetta and North-West Frontier Province and conveys its heart-felt sympathy to the members of the bereaved families and exhorts all the members of the medical profession in the Andhradesa to contribute liberally towards one or other of the relief funds that are started in the country for the help of the distressed people.

The Andhra Medical Conference urges on the Government of Madras and the Andhra University authorities the necessity and urgency of getting the Andhra University M. B., B. S., degree recognised by the Indian Medical Council by effecting immediately the necessary improvements required by the Inspection Commission in the King George Hospital and the Medical College, Vizagapatam."

The President in his concluding remarks expressed the hope that the varied activities of this Conference would give impetus to the profession to organize themselves for better professional and scientific work and that a spirit of co-operation and emulation would pervade that all ranks of the profession.

A number of delegates spoke thanking the Reception Committee for the arrangements and demonstrations organised for the benefit of the Conference.

After a vote of thanks to the numerous individuals and public institutions, that co-operated in making the Conference a success, the Conference was brought to a close.

The same night, there was a farewell dinner at the delegates' camp, where the gathering was entertained to delightful music by a South Indian artist. The doctors from various parts established new contacts, renewed old friendships. The gathering broke up with a feeling that they had spent three days usefully and happily.

INDIAN INSTITUTE FOR MEDICAL RESEARCH

Half-yearly Report

On the 1st January, 1935, the Indian Insittute for Medical Research was opened with the departments of Bacteriology and Protozoology at 41, Dharamtala Street, Calcutta. This constitutes the temporary premises of the Institute, consisting of 9 rooms. Although the department of Biochemistry and Nutrition was not opened, two research workers have already begun work on biochemical and nutritional problems. As contemplated in the memorandum of the Institute a Diagnostic Section was also opened to provide income as well as research material for the work of the Institute.

Staff.

The present staff consists of the two Directors of the departments of Bacteriology and Protozoology, Dr. H. Ghosh and Dr. J. C. Ray, who have been giving their whole time services to the Institute on an honorary basis, eight medical men (two honorary), two biochemists (one honorary), three laboratory assistants, one clerk for office work and five helpers. It may be stated that in the Diagnostic Section, the system of double examination for each specimen sent to the laboratory has been introduced for accuracy and reliability of the work done. One worker has been entrusted with the task of collecting strains with a view to the preparation of a much desired " National collection of Type cultures." The Diagnostic Section supplies materials for research purposes.

Research.

The following papers have already been published or are in course of publication :

1. H. Ghosh—Treatment of Cholera with a new Anti-Cholera Serum. (Preliminary note)—British Medical Journal. 12th January, 1935.
2. H. Ghosh—Treatment of Cholera in Children—Indian Journal of Pediatrics, July, 1935.
3. J. C. Ray—Studies on Protozoal Vaccine—Part I. Oriental Sore Vaccine—Indian Journal of Pediatrics, April, 1935.
4. R. K. Chakravorty—The vitamin C content of some Indian Food Materials—(in course of publication—October issue, 1935), Indian Journal of Medical Research.
5. S. P. De—A comparative study of differential count of blood by thick and thin smears.

The following papers are in course of preparation :

6. H. Ghosh—Further studies on the therapeutic value of the new anti-cholera serum.
7. H. Ghosh—Intraperitoneal Serum therapy.
8. H. Ghosh—Agglutination and lytic properties of convalescent cholera serum.
9. R. K. Chakravorty and A. Roy—The relation between the composition of the diet and the urinary excretion of vitamin C content.
10. R. K. Chakravorty—Further studies on the vitamin C content of human milk.
11. R. K. Chakravorty—The effect of heat on the vitamin C content of milk from different species of animals.
12. P. N. Chaudhury—Biochemical changes of blood on glucose injection.

Further work is proceeding or is being undertaken on the following problems :

13. H. Ghosh and S. Bose—Further work on the nature of cholera toxin.
14. H. Ghosh—Investigation on Intraperitoneal serum therapy in Typhoid.
15. R. K. Chakravorty—Nutritional experiments connected with the vitamin C. requirement of lactating women.
16. R. K. Chakravorty—Effect of heat on the vitamin C and other reducing substances of vegetables.
17. R. K. Chakravorty—The content of physiologically important minerals in Indian food-stuffs.
18. J. C. Ray—Serology and antigenic structures of various leishmania parasites.
19. J. C. Ray—Morphology of various leishmania parasites.
20. J. C. Ray and A. Roy—Treatment of cases of Post-Kala-azar dermal leishmaniasis with leishmania vaccine.
21. J. C. Ray and S. P. De—On problems of cultivation of malarial parasites.
22. J. C. Ray—Study on the antibody response in actively immunised monkeys with the antigen, prepared from monkey malarial parasites.
23. J. C. Ray—Preparation of potent antigen of E. histolytica for skin-test and complement-fixation test in the diagnosis of Amœbiasis.
24. S. P. De—Isolation of non-lactose fermenters from stools of patients suffering from intestinal disorders and isolation of corresponding bacteriophages.

Investigation on Epidemic Dropsy.

The serious menace of Epidemic Dropsy requires special attention. A group of workers have already begun an attack on this disease, of which the ætiology is unknown, from (1) nutritional, (2) biochemical (3) bacteriological (4) epidemiological and (5) pathological aspects. The problem might require prolonged and intensive investigation, but it is believed, the problem is capable of solution by sustained and concerted effort.

The workers of the Institute would have liked to tacle other important problems, but unfortunately, owing to the financial handicap, have to adjust and restrict their plans of work to the existing economic resources of the Institute. The problems listed above would-indicate their importance both from the practical medpical standpoint and from the standpoint of basic science.

Scientific Meetings.

The Institute has undertaken to call periodical scientific meetings at its premises for the reading and discussion of original papers and for holding symposia. The meetings are open to members of the Institute and to all scientific and medical men. The first meeting was held on the 8th June, 1935, where the following papers by the workers of the Institute were read:

1. H. Ghosh—Treatment of cholera in children.
2. S. P. De—A comparative study of differential count of blood by thick and thin smears.
3. R. K. Chakravorty—The vitamin C content of some Indian food materials.

Donations.

Apart from the generous offer of Rs. 25,000 from Sir Dorab Tata Trust, we have received promises of money amounting to approximately Rs. 23,000, of which Rs. 6,225 have been realised.

We have received a donation of Rs. 500 from Allianz und Stuttgarter Life Insurance Company of Delhi as first instalment towards the investigation on the urgent problems of " Epidemic Dropsy."

The Corporation of Calcutta is considering our application for a capital grant of Rs. 25,000. We are hopeful of response from this direction. But, according to the usual practice, the sum sanctioned will not be available till February, 1936.

Scholarship.

One of our research workers, Mr. Ramakanto Chakravorty has recently been awarded a Lady Tata Memorial Scholarship of Rs. 150 per month for one year from July, 1935 to June, 1936, to continue his work on the Nutritional problems of Indian Foodstuffs with special reference to vitamin C.

Use of Library.

The Directors of the Calcutta School of Tropical Medicine and All-India Institute of Hygiene and Public Health have very kindly allowed the use of their respective libraries to the workers of this Institute. To the authorities of these Institutes our best thanks are due.

The Outlook.

The Institute has been started on a modest scale but with a fixed determination and sincerity of purpose to build up a national Institute for the advancement of Medical Research in this country. The work and influence of the Institute should never be allowed to be regional. It should have intimate relation with the people and public health problems of all parts of India. To this end we appeal for unstinted support and active co-operation from our countrymen.

The Institute is already proving incommodious for the scale on which the work is proceeding. It is essential to remove to a more suitable premises for adequate prosecution of the present researches as well as for opening the new departments, especially those of " biochemistry and nutrition," and " chemistry, immunochemistry and chemotherapy " and for the creation of a suitable library for research purposes. The workers of the Institute should also receive adequate remuneration for the free and unfettered continuation of their work. For this, sufficient funds are needed, without which the progress and even the stability of the Institute may be seriously jeopardised. Freedom from financial worry and adequate facilities for research are essential for carrying out original work. We issue, therefore, a fresh appeal for financial support.

In conclusion, we wish to thank most heartily to the donors and members, who have helped to create this nucleus of medical research, which requires fostering care. We hope that with continued and extended support from the generous public and with the sincere and untiring efforts of the workers of the Institute it will gradually fulfil its aims and objects.

MEDICAL NOTES AND NEWS

REOFRM IN MIDWIFERY PRACTICE

At a public health congress held in London, Prof. F. J. Browne, Director of the Obstetric Unit at University College Hospital, complained of the lack of co-operation between the medical officers of municipal antenatal clinics and private physisians, which meant a gap between diagnosis and treatment. Medical officers at the clinics are not allowed to give treatment; the patient must be referred to her own physician, who is often too indifferent or too occupied to give her the treatment she requires. The time has come, according to Professor Browne, to bridge this gap by taking midwifery out of the hands of the general practitioner and establishing a service of specialists, thoroughly trained in obstetrics, to work in co-operation with highly trained nurse-midwives. This team would be responsible for the care of the patient during pregnancy and delivery. The general practitioner, he says, is unsuited for the practice of midwifery for the following reasons. 1. Its practice calls for a long specialized training, impossible to give the undergraduate medical student. Nothing less than three years of post-graduate practice in a large maternity hospital will give the necessary skill. 2. In the course of his work the general practitioner is continually in contact with septic wounds and may have to go direct from such a case to a midwifery case, with grave risk of infecting his patient. 3. Midwifery practice is incompatible with the claims of general practice. It occurs at irregular times and interrupts the physician's work, entailing dangerous haste. The high maternal death rate will be overcome only by a specialist service in which team work will replace the confusion of the present midwifery service.

(*Foreign letters*, *J.A.M.A.*, 104:1, 1935)

HAS EUGENIC STERILIZATION ANY VALUE ?

Every medical student in France and its colonies must present a thesis in order to fulfil the requirements for graduation. Szwarcz (These de Paris, 1934) chose as the subject of his thesis " The Eugenic Sterilization of Abnormals." Some of the author's statements are of interest and will be quoted here :

The arguments thus far presented to defend both the necessity and the efficacy of eugenic sterilization are not based on proved scientific data.

One is unable to prognosticate, except in rare instances, that diseases will be inherited. Aside from certain unusual diseases or familial malformations, the Mendelian laws of heredity encounter serious objections.

The data of probable inheritance are too general and subject to too many variations to have any but theoretical value.

The application of average statistics to hereditary prognosis and to eugenic sterilization in special cases is too uncertain. It frequently leads to serious errors because there is always a possibility that the future generation will be healthy.

It is too soon for geneticians to assume the role of experts in the form of being able to predict accurately the heredity of human diseases. The conscientious physician cannot therefore accept the principle of eugenic sterilization with all its practical consequences.

Hereditary stimgas frequently disappear completely or at least appear in greatly attenuated form in children born of diseased parents.

Eugenic sterilization has thus far not greatly decreased the total number in succeeding or even in the present generation. Modern methods of treatment have greatly influenced the possibility of transmission of hereditary taints. Observations covering a period of centuries show that the majority of mental and nervous hereditary stigmas are the result of alcoholism, tuberculosis and syphilis; in other words, the result of faulty environment, which should be conquered by other curative agents than sterilization.

(*Foreign letters*, *J.A.M.A.* 103:19, 1934).

HEALTH INSURANCE IN 1933 (Berlin)

The Federal Bureau of Statistics has just published a preliminary report on health insurance in 1933. The report gives amount of dues paid and the total performance of the society. Since 1914, the number of Krankenkassen has steadily declined. In

1914 there were 9,944 krankenkassen; in 1928, 7,426; in 1930, 7,183; in 1932, 6,611; and at the end of 1933, 6,327 krankenkassen.

The average number of members in 1931 was 20,616,000; in 1932, 18,712,000, and in 1933, 18,525,000. While this was the yearly average, the total membership at the end of 1933 was about 1,600,000 greater than at the beginning of the year. The number of obligatory members was reduced by 127,000, and the number of voluntary members 2,300,000 of whom are members of local krankenkassen. The administration of the krankenkassen requires the services of 34,300 persons. There are about two administration officials to each thousand members. The number of panel physicians is about 32,000. The monthly or quarterly dues have been considerably reduced. By the end of 1929, nearly 2,000 krankenkassen with nearly 12,000,000 members exacted dues in excess of 6 per cent. of the wages of members; by the end of 1933 there were only 246 krankenkassen with 1,740,000 members still requiring 6 per cent. of wages earned. For the granting of performances that exceeded those provided for in the bye-laws, certain additional dues were demanded. Only those krankenkassen whose dues did not exceed 5 per cent. of the wages earned could grant additional performances. This provision prevented 1,458 krankenkassen with 8,200,000 members from granting such additional performances. Other krankenkassen made use of this feature and paid an increased weekly sick benefit to those members who had to provide for others besides themselves. Further additional performances were granted in the form of special grants for medicine and minor remedies prescribed for members of the family. Some krankenkassen assumed (partially or entirely) the costs of minor remedies, cordials and major remedies. Still others paid part of the hospital changes. In the matter of aid for puerperants, the legally prescribed amounts were exceeded by a few krankenkassen. On the other hand, a number of krankenkassen granted an additional amount for a burial, the usual allowance being twenty times the fundamental wages. Nearly 40 per cent. of all the krankenkassen paid twenty-five times the wage scale or an increase of 25 per cent. About the same portion of the krankenkassen paid the burial allowance in the event of the death not only of the head of the family but also of other members of the family.

(*Foreign letters, J. A. M. A.* 103:19, 1934)

SALE OF A MEDICAL PRACTICE AS AN ETHICAL PROBLEM

The economic crises have brought up the question as to whether a physician or his heirs are justified in endeavouring to realize on the capital represented by a medical practice. Many discussions on the subject have been held of late at sessions of the Writschaftliche Organisation der Aerzte of Vienna, and two opposite opinions have been defended. Whereas the lawyers expressed the view that developments of modern economic life have tended to cause the medical profession to be regarded as a commercial enterprise, which can be bought or sold the same as any other business undertaking, the members who cling to medical traditions held the view that a medical practice "rests primarily on ethical principles" and not on the acquisition of money as does a business. They are absolutely opposed to the idea that a medical practice, which nearly always is based only on purely personal qualities, shall be made the object of a commercial transaction. The confidential relation between the physician and his patient is not a marketable product and cannot be transferred to another person at will. Up to the present, too, the laws of Germany, Austria and Czechoslovakia have been opposed to all commercial transactions involving a medical practice. But, when a dental practice or medical institution, such as a sanatorium or hydro-electrotherapeutic institutions, are the interests involved, the law views the matter in the same light as any other enterprise constituting a source of revenue. It may be said, therefore, that the majority of the leaders of the medical profession are opposed to the transfer of a medical practice for a monetary consideration. It is generally recognized, however, that this is the standpoint of the older generation. The younger physicians take a more practical view of the matter, and, while they also are convinced of the need of upholding strictly the ethics of the profession, they do not regard the sale of a medical practice, by any means, as a misdemeanour (or impropriety but rather as a dire necessity conditioned by the inexorable developments of modern life.

(*Foreign letter, J. A. M. A.* 103:19, 1934).

SICKNESS INSURANCE SCHEME

The Government of India have just written to local Governments inviting their opinions on the scheme of sickness insurance for industrial workers.

This subject was discussed by the Royal Commission on labour who held that the situation called for the exploration of all methods that might lead to the alleviation of hardship due to the absence of an insurance scheme. They recognised, however, that the statistical material available was insufficient and recommended special enquiries at selected centres as soon as possible.

The advice obtained by the Government of India from experts in this connection indicated that an elaborate analysis would be required over a series of at least five years of experience as regards sickness and the employment of the repressive sample of the industrial population. The Commission also suggested an alternative scheme applicable to single establishments which can be made available, provided the employers and workers are willing to make the necessary contributions.

The Government of India in inviting the views of Local Governments suggested that it would be a sounder and quicker method of proceeding to institute smaller schemes and proceed upon experience rather than on the basis of a comprehensive statistical enquiry. They have also asked for particulars of the various schemes already in existence.—(A.P.).

ARMY VET. CORPS COMPLETE INDIANISATION SCHEME

The following communique has been issued:—

" Some years ago, the Secretary of State approved of the policy of replacing British officers of the Royal Army Veterinary Corps in Indian continuous service cadre, as wastage occurred, by Indian commissioned officers. The normal rate of wastage involved a period of about 21 years before the last of the 22 British officers of this cadre was replaced by Indian commissioned officers. The Secretary of State has now approved of the new scheme of Indianisation by which there will be a progressive extension of the Indian cadre to a total of 60 Indian commissioned officers. This policy will provide every Indian mounted unit with the services of a trained M. R. C. V. S. (Member of the Royal College of Veterinary Surgeons) for proper application of modern veterinary science to the problem of reducing animal wastage.

" The following information may help parents who are considering the Indian Army Veterinary Corps as a career for their sons:

(1) To obtain a commission in I. A. V. C. a candidate must first obtain the diploma of M. R. C. V. S. which can only be obtained in the British Isles after 5 years' study at a recognised veterinary college;

(2) Conditions of service in the I. A. V. C. are that (a) candidates must be under 28 years, (b) they must pass a competitive entrance examination, (c) they will serve 3-1/2 years in the rank of Lieutenant before promotion to Captain, (d) they then serve 8-1/2 years in the rank of Captain before promotion to Major and (e) promotion above the rank of Major is by selection.

(3) Rates of pay are as follows:—(a) Lieutenants Rs. 440 a month, (b) Captain from Rs. 495 to Rs. 715 a month and (c) Majors' pay is still under consideration;

(4) There will be about 4 vacancies a year during the next 11 years. Subsequently vacancies will occur to replace normal wastage which is estimated at two officers a year. This reorganisation gives great encouragement to the youth of India to study veterinary medicine and to join an interesting scientific branch of the army."

EPIDEMIC DROPSY—LIFE ASSURANCE COMPANY'S CONTRIBUTION FOR INVESTIGATION

Dr. J. C. Ray, M.D., Secretary, Indian Institute for Medical Research communicates that the Allianz und Stuttgarter Life Insurance Comapny of Delhi has donated Rs. 500 as first instalment towards the investigation of Epidemic Dropsy at the Indian Institute for Medical Research at Calcutta. This shows welcome appreciation of the need of Medical Research from the standpoint of the interest of Life Insurance Companies.

In a country like India, where mortality is great and the average expectation of life is low, such contribution by far-seeing Life Insurance Companies are bound to further both their interests and those of the people at large. The Secretary greatfully acknowledges the gift and considers it worthy of emulation by enlightened sister Companies.

RESEARCH IN T. B.

Dr. N. L. Mukherjee, Recommended by India Government

It is understood that the Government of India have recommended Dr. Nandalal Mukherjee, M.B.,

B.S., of Patna, for the award of a scholarship announced by the Italian Fascist National Federation for research in tuberculosis. The final selection will be made at the summer session of the Executive Committee of the International Union against tuberculosis to be held at Paris.—(United Press).

THE WORKMEN'S COMPENSATION

Government Measures
Provision for Occupational Diseases

The Government of India have made a reference to the local Government on the subject of the action to be taken on the draft convention adopted by the International Labour Conference regarding workmen's compensation for occupational diseases. This convention, which revises and supplements the similar convention adopted in 1925, proposes to add certain occupational diseases for the purposes of workmen's compensation. The diseases included in the convention which are not already covered by Indian Act are (1) silicosis (2) arsenic poisoning (3) poisoning by the halogen derivatives of hydrocarbons of the aliphatic series, (4) pathological manifestations due to radium and other radio-active substances or to X-rays, (5) primary epitheliomatous cancer of skin.

Silicosis

Of these the most important is probably silicosis which is a dangerous lung-disease often associated with and frequently confused with tuberculosis. The Government of India observe that the disease is associated in other countries with gold mining and with many common industrial processes of which sandblasting, manufacture of China glass and pottery and stone cutting are examples. They ask that enquiries may be made as to the incidence of diseases of lungs among the workers engaged in operations mentioned above or other "dusty" trades. They observe, however, that silicosis cannot ordinarily be definitely diagnosed except by experts equipped with radiological apparatus and inquiry if there are in any area sufficient facilities of this character. They also refer to the possibility of preventive measures in some factories, *e.g.*, railway workshops.

Special measures are already taken to protect the workers from dangers incidental to sandblasting and it is possible that applications of suitable regulations might have a substantial effect in reducing the incidence of disease and it is suggested that regulations could be made under the Factories Act to protect persons exposed to risk of silicosis.

Arsenic Poisoning

The letter also asks for information bearing on the incidence of other diseases mentioned. It is suggested that oxide of arsenic may be used in hide and skin and in the tanneries in India and that enquiries might be made accordingly as to the incidence of arsenic poisoning.

BENGAL HEALTH CONFERENCE

Inaugural Meeting
A Number of Important Resolutions Adopted

The All-Bengal Public Health Conference was opened by Dr. B. B. Brahmachary, late Director, Public Health Laboratory, Bengal, on Saturday, the 15th June, 1935, at 3-30 p.m. at the 24-Pargs. District Board Meeting Hall, Alipore, under the presidentship of Dr. B. C. Mukherjee, M.B., D.P.H., Assistant Director of Public Health, Bengal.

The Conference was well represented by delegates from almost all Bengal Districts.

The Chairman of the Reception Committee, Rai J. C. Sen Bahadur, J.P., M.L.C., Chairman, 24-Parganas District Board, welcomed the President and the gentlemen present. The President Dr. B. C. Mukherjee delivered a lengthy speech, in course of which he discussed various important health topics of the province.

The Conference held its 2nd sitting at the same hall on the following mornnig, at 9 a.m. for the opening of Deshbandhu Smriti Mandir. Rules and Regulations were framed and then the following resolutions were unanimously passed:—

The sitting opened with the following resolutions:—

"This meeting expresses its heart-felt gratitude to the Late Deshbandhu C. R. Das who brought into being this Rural Public Health Organisation Scheme and expresses its deep sense of honour and reverence to the departed soul."

Resolutions

The Conference unanimously adopted the following important resolutions:—

Resolved that this Conference of Sanitary Officers desire to record that an Association be started under

the name " All-Bengal Public Health Association " with the object as noted in the constitution. This Conference also desires to put on record that this Association shall be an independent body acting in co-operation with ' All-Bengal District Board Employees' Association ' in all matters of common interest and shall not do anything that may adversely affect the interest of that body.

This Conference submits for the Local Government's consideration the enactment of a consolidated Public Health Act.

This Conference recommends to the District Board that the income from the administration of Food Adulteration Act and Vaccination Act may be set apart for the improvement of Health Department of the Board.

That necessary enquiries be made from the District Health Officers regarding the details of prosecutions failed under Section 7 (1 and 2) of Bengal Food Adulteration Act due to defects in the Section mentioned and that steps be taken on receipt of their opinions.

In view of the urgency of water supply in endemic cholera villages this Conference recommends that in all water supply scheme the District Health Officer should be consulted before the schemes are placed before the Public Health or Water Supply Committee and due consideration should be given to the recommendations of the D.H.O. as regards site selection also.

OFFICE-BEARERS (1935—36)

President :—Rai Bahadur J. C. Sen J.P., M.L.C., Chairman, 24-Pergs. D.B.

Vice-Presidents :—Dr. B. B. Brahmachary, Late Director, Public Health Laboratory, Bengal; Dr. A. K. Sircar, Dist. Health Officer, Faridpore and Dr. G. K. Chakravarty, Dist. Health Officer, Rajshahi.

General Secretary :—Dr. K. P. Mukherjee, Dist. Health Officer, Howrah.

Joint Secretary :—Babu Prakash Chandra Bhattacharjee, 24-Pergs. and Babu K. C. Chakravarty, Howrah.

Treasurer :—Babu Priya Nath Mitra, 24-Pergs.

Executive Committee :—Babu Nitai Mohan Gupta, 24-Pergs, Dt. Board and other 29 representatives from all Dist. Boards of Bengal.

SURPLUS STOCKS OF QUININE

Question of Sale
Government's Duty Towards Malaria-stricken People

It is understood that the Government of India have at present nearly 300,000 lbs. of quinine in stock of which, according to medical advice, 150,000 lbs. is to be held as a reserve against a national emergency. It is further understood that the Public Accounts Committee have asked the Government of India to dispose off the surplus stock either to Local Governments or to trade or to any other agency, as at the market rates, 150,000 lbs. of quinine represents a locked-up capital of 27 lacs of rupees on which the tax-payer loses his interest. So the Government of India are carrying on certain negotiations for the sale of surplus stock of quinine to the Kina Bureau on failure of Provincial Governments to buy it at a reduced price.

With regard to this question of sale of surplus stocks of quinine, the Federation of Indian Chambers of Commerce and Industry, Cawnpore, have sent a letter to the Government of India, giving their considered opinion that these surplus stocks of quinine should not be sold to be taken outside India, but used for distribution among the malaria-stricken people of this land.

In a country like India where the population is mostly made up of agriculturists and that too with scarcely any reasonable means of livelihood, the problem of medical relief ought to have engaged the attention of the Central Government. The Government of India know very well how the finances of the Provincial Governments are and the position which the transferred departments under the new contitution occupy. If the Central Government are really anxious that some relief should be afforded to the millions of agriculturists suffering from malaria, they should see that sufficient supply of quinine is made cheaply available to the Provincial Governments and that malaria-infected districts get better facilities for creating in the population a quinine habit for relieving them from malaria. The Committee need not add how Governments of Italy and Greece are fighting this malady by supply of cheap quinine to their population and how splendidly they have succeeded in decreasing malaria mortality to a substantial extent. The consumption of quinine per head in Italy is 16 gr., in Greece 24 gr. against 3½ gr. per head in India.

As regards the proposition that the Government of India have before them, of disposing off the surplus stocks, the Committee may as well frankly give their opinion that they do not believe that the only course left to the Government of India is to sell the stocks to the Kina Bureau. The Committee understand that the Government of India would be disposing off 24,000 lbs. at Rs. 12 per lb. which means the stocks worth Rs. 300,000 every year will be disposed off and they will be getting in all about Rs. 1,800,000 by the sell of surplus stocks to the Kina Bureau during the period of six years and not Rs. 2,700,000 as expected by the Public Accounts Committee. The Committee feel that if the Government of India are definitely to initiate a bold policy of giving relief to the agriculturists by way of cheaper supply of quinine, the amount of Rs. 300,000 a year does not constitute a very grave financial problem, for which a solution could not be found. The moment the Provincial Governments see that the Central Government are determined in their policy of quinine supply, sufficient finances would be forthcoming from these Provincial Governments for the use of the transferred departments for the purpose. The Committee would, therefore, suggest to the Central Government to make a final effort by calling a conference of representatives of the Provincial Governments with a view to evolve a plan of co-ordinated action to solve the problem of surplus stock, to find out ways and means to increase the consumption of quinine by way of embarking upon a scheme of distribution of quinine and to consider other aspects of this problem.

During the last three financial years, India imported on an average 113,000 lbs. of quinine of the value of Rs. 2,700,000 There have cropped up during the last few years a number of pharmaceutical works of good standing which manufacture drugs and medicines of all kinds and it may not be a very difficult problem for the Government of India to dispose off annually quinine stocks of the value of Rs. 300,000 if they approach some of these concerns for the sale of their quinine. The Committee understand from the trade concerned that if a serious effort is made by the Government to dispose off 24,000 lbs. of quinine every year at the rate at which they intend selling to the Kina Bureau, it will be easily absorbed by not only some of the chief pharmaceutical works in India, but also by Indian State administrations, hospitals, anti-malaria organisations and District and Local Boards.

Apart from this immediate question of disposal of 24,000 lbs. of quinine a year, the Committee suggest the Central Government should review their whole policy and arrive at a decision on the following points:—

(a) The minimum requirements of the country to fight out malaria satisfactorily.

(b) The actual out-put of the Government plantations and the ways and means to make India self-sufficient in her requirements of quinine.

As regards (a), the Health Commissioner to the Government of India puts down 500,000 lbs of quinine as necessary for the purpose, while the Royal Commission on Agriculture puts down 160,000 lbs. as the immediate requirement. The Bombay Medical Union estimates the amount of quinine for hospital requirements alone at 125,000 lbs. and for the whole country 1,500,000 lbs. Against this India produces not more than 42,000 lbs. The Royal Commission suggested that to reduce the price of quinine within India, it is necessary that India should be self-supporting in the production of quinine.

As regards (b), the Committee would leave it to the experts of the Government of India to work out the requirements of India and to their Agricultural Research Council to find out the ways and means to make India self-sufficient in her requirements of quinine. These are not to their mind very insuperable problems. The Committee further understand that the Government of Bengal have been thriving plantations in the Darjeeling Hills and they are capable of expansion provided sufficient finances are made available. The Committee fail to understand why it should not be possible in India to make this country self-sufficient when cinchona was introduced here 75 years ago.

"CHARAK MEMORIAL PRIZE"

One Hundred Rupees for a Thesis on Antiquity of Syphilis (Venereal Diseases) in India

CONDITIONS

1 The thesis should be in English. Short quotations from original references in Sanskrit or other languages will be accepted.

2 Complete bibliography of authors, facts and figures, data of matter in the thesis should be given.

3 The thesis should be submitted, typed on one side only, in foolscap size paper with double

spacing and margin on the left, and should not exceed fifty such pages. The manuscript should reach the Editor, ' Indian Journal of Venereal Diseases ' 94, 97, Girgaum Road, Bombay 4, by registered post by the 30th December, 1935.

4 There is no territorial bar for competitors.

5 The thesis submitted will be judged by a small Board of Examiners.

6 The winning thesis will become the property of the Indian Journal of Venereal Diseases, and published in one of the issues. The Journal will have its copyright.

7 No reason will be given for refusal or rejection of any or all the theses submitted. The decision of the Editor shall be final on all matters.

8 An authoritative, literary and scholarly article will be appreciated.

CORRESPONDENCE

The Editor,

Journal of I. M. A.,

Calcutta.

Dear Sir,

We have to draw your attention to the following printing mistakes in the Report of the U. P. Branch as published in June issue of your Journal:

(1) Page 476, in the Statement of Accounts, the Balance in Hand is Rs. 42-15-6, which is given in detail below as (a) with the Hony. Treasurer, Rs. 12/4/- and (b) Cash in hand Rs. 30-11-6. These two items (a) and (b) should not have been added to the total when the total of the Balance has already been done so, but should be shown as follows:—

To Balance— Rs. 42 15 6

(a) With the Hony. Treasurer Rs. 12 4 0

(b) Cash in hand ,, 30 11 6

(2) Page 476, in the Report of the activities, Line 8 of the 1st Paragraph should read membership of 440 instead of membership of 40.

I hope you will do the needful.

19th June, 1935.
Meerut

Sd/- R. N. Bose,
Actg. Hony. Secretary.
U. P. Provincial Branch.

REVIEWS

PROCEEDINGS OF THE ALL-INDIA OPHTHALMOLOGICAL SOCIETY, VOL. III, 1933

This volume contains the proceedings of the 3rd Conference held in Calcutta in December, 1933.

There are thirty-three scientific contributions of which one is from Prof. A Fuchs of Vienna and the rest from the members from different provinces.

In his opening address Sir Hassan Suhrawardy expresses the hope that the Society will, by means of exchange of information and ideas, succeed in its object of co-ordinating the effects of the individual workers and of stimulating efficiency and research. Dr. D. N. Maitra in his welcome speech refers among other things to the work in connection with the prevention of blindness in the various cities of India. In his presidential address Col. (Now Sir J. N.) Duggan records the progress in ophthalmology in recent times and to the essential unity of all physiological processes. He hopes that with the wealth of material at the command of medical men in this country, India would enrich the science of ophthalmology.

Scientific contributions include papers on various subjects—cornea, conjunctiva, eyelids, intraocular tension, iris, sclera lens, retina, lacrymal sac, orbit error of refraction and therapeutics.

In the " Surgery of Iridocyclitis," Prof. Fuchs advocates operations on iris in certain selected cases of chronic iridocyclitis, the results depending on the correct estimation of histo-pathological changes in the tissues concerned.

Col. J. N. Duggan reports quite favourable results from his vast experience on the use of ultra-violet light as an adjuvant with other forms of treatment in some of the external eye diseases.

Dr. C. N. Shroff in his paper strongly advocates in favour of intracapsullar cataract operation and from his personal experience in a large number of cases, prefers Smith-Mathurdas method.

Lt.-Col. Kirwan from a study of more than 1500 cases of superficial punctate keratitis, which is raging in epidemic form for the last few years in Bengal supports the Madras view that anterior uvea is involated in a large number of cases.

Dr. S. K. Mukherji makes some further observations on glaucoma as the result of epidemic dropsy. He regards constant fluctuation of tension an important factor in early cases and normal or lower tensions in some cases are very deceptive. Typical field changes are not always to be expected in this type of glaucoma. Formation of glaucomatous cupping is late in appearance and has very striking pallor.

Iridenclerisis in glaucoma was recommended by J. Gnanadickam in his paper from his experience on more than fifty cases and thinks, in spite of some drawbacks, it would gradually replace trephining in our country.

In a paper on asepsis of the conjunctival sac in intraocular operations, Capt. K. Sen found washing of it with lotion Hydrag oxycyanide (1 in 10,000), drops of mercurachrome (1%), application of Ung-H.O.F. ($\frac{1}{2}$%), very safe in his series of cases.

In " some observations on the leprotic affections of the eye " Dr. B. N. Bhaduri, points out the reasons for wide variations in the incidence of ocular complications recorded by different observers and has given his own records. He emphasizes the importance of early diagnosis of intraocular inflammation which is easy to follow, but would give a better chance to the eye to retain useful vision for a long time by the early adoption of judicious treatment.

The same author in another paper on some observations on hypotony in cholera found a definite relationship between the intraocular tension and specific gravity of blood from his study on 43 cases.

Capt. S. C. Dutt, traced the development of modern ophthalmology in Calcutta and Bengal from 1792 up to the present period in a very fascinating paper. It would be news to many that conching remained the operation of choice till 1885.

Dr. H. K. Indra reports three interesting cases on Krunkenbergs spindle, Posterior lenticonus and apparent accommodation in an aphakic eye.

Dr. S. K. Bagchi reports a case of intertitial keratitis, cured after an attack of typhoid fever and another retinal exudates clearing up after antimaœbic treatment.

Dr. P. K. Biswas reports several cases of epidermoid carcinoma of the conjunctiva and a case of central retinitis due to infected antrum.

The staff of the Government Ophthalmic Hospital, Madras, report on two very interesting but rare cases of Von Hippel-Lindau's disease.

Dr. G. C. Banerjee in his paper on hœmorrhagic retinitis in young persons reports a few cases.

Dr. Banerjee reports successful results from the injection of emmulsion of " proteose " from the urine in a case of spring catarrah. Other papers on conjunctival diseases include one on monocular conjunctivitis by Dr. B. Chakravarti and the beneficial effect of chaulmoogra oil application in trachoma by Dr. G. S. Guha.

Other interesting papers are one on septic thrombosis of the cavernous sinus and orbital collutitis by Capt. N. N. Roy; malignant diseases of the orbit by Dr. J. D. Dhruv; Some congenital abnormalities of the eye by Dr. Choudhuri and the only paper on errors of refraction entitled School myopia by Capt. J. Banerji. The last paper is a collection of dates obtained from the examination of eyes in a number of schools and colleges in Calcutta. Out of 1584 students examined 35% were myopes, with or without astigmatism.

Two papers are on the operations of eyelids one by Dr. Rafetullar about the satisfactory results after Websters operations of the eyelids and the other by Dr. V. C. Rambo on the place of tarsectomy and mucous membrane grafting in surgery of the upper eyelid and conjunctiva in which he advocates the operation of Duverger and Velter with certain modifications. In last six years he has done 155 operations and has got gratifying results. Dr. N. Chatterjee has written a paper on after-cataract describing in details the different types of operation that are in vague.

This list of communications show that most of the papers are merely case reports. There is scarcely a single one which can be said to be an investigation in one of the unsolved problem in ophthalmic science. The Society is still in its infancy and these conferences are more or less in the nature of an opportunities to meet one another from distance places. It gives an insight into the standard of ophthalmic practice and the diseases met with in different parts of India separated by long distances. Such meetings would not only result in an uniform standard of medical practice in this vast country but would also be a great help in raising that standard to a higher level. Then and only then, the members of the profession would feel an urge to seriously investigate the problem not necessarily peculiar to the conditions in India be it preventive or ameliorative but also would take up the basic problems that has hitherto remains unsolved. This can be achieved if those who specialises in this branch of medicine join this infant organization. This All-India Ophthalmological Society has got on its roll 114 members, which is too small for our big mother India, a country containing the largest percentage preventible blindness in the world.

ACKNOWLEDGMENTS

List of Journals (Foreign) Added to the List of Exchange

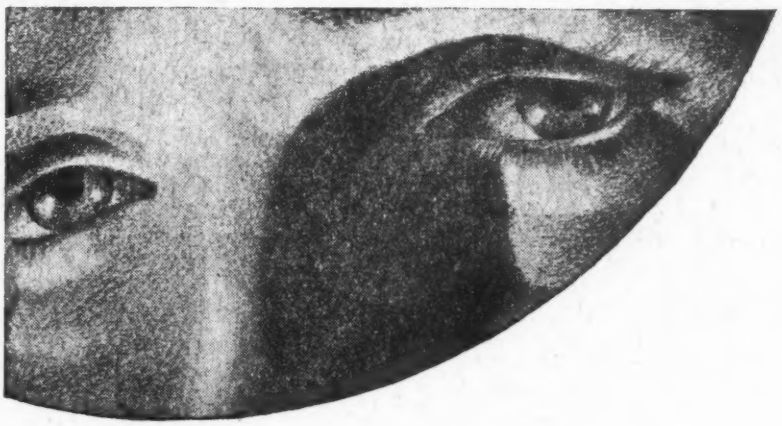
1. Practitioner—In English Language.
2. Magyar röntgen Közlöny—In Hungarian Language.
3. Soviet Klinika—In Russian Language.

List of Journals (Inland) Added to the List of Exchange

1. Science & Culture—In English Language.
2. The Calcutta Dental Review—In English Language.
3. The Indian Journal of Venereal Diseases—In English Language.
4. Sankhya—In English Language.
5. Manuscript Magazine of the Nasik Medical Union—In English Language.

The following books have been received for reviewing:—

1. Practitioners Library of Medicine & Surgery Vol. VIII, Butterworth & Co. (India), Ltd., Calcutta.
2. Modern Medical Treatment—By Dr. Jamiat Singh, M.D. (Ph), F.R.C.P. & D.P.H. (Edin.).
3. Proceedings of All-India Ophthalmological Society, Vol. III., 1933.



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By A. V. KEITH, CALCUTTA.

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Those who manufacture and export cures for India's ailments are usually wide-awake citizens when it comes to the choice of advertising media, but in leaving out the Indian Medical Press, they are missing something that matters! It is the doctors of India who really guide the purchasing public in their choice, and in the special conditions of India, there is a much closer connection between the doctor and the man who sells the medicine than is the case under the stringently applied conditions of England.

It is true that much circularising of doctors is done, but direct mail appeal can be put out in astronomical quantities in India, without much result. Advertising is much cheaper, in the right media, and the appeal gets home every time. Manufacturers on this side would do well to use the Indian doctors' own journals to a far greater extent.

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